Amateur Radio

July 1998

Volume 66 No 7

Journal of the Wireless Institute of Australia

Full of the latest amateur radio news, information and technical articles, including...

- **MIREX Comes to Gormondale Primary School**
- **The DSB40 - A 40 Metre DSB Transmitter**
- **Review of the Magellan GPS Pioneer**

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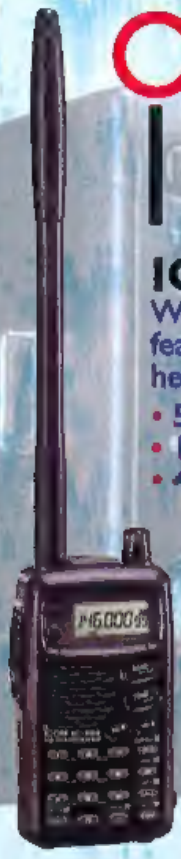

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Amateur Radio

Journal of the Wireless Institute of Australia

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A Gormandale Primary School student talking to Australian astronaut Andy Thomas VK5MIR with Principal Rob Higgins VK3JKA alongside. See the full story on page 7.

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August issue	17/07/98
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Receipt of *Amateur Radio* by Mail
The August issue will be delivered to Australia Post on Tuesday, 4 August 1998 for mailing to members.

If this magazine is not received by the 15th of the month of issue, and you are a financial member of the WIA, please check with your local Post Office before contacting the registered office of the WIA.

CONTRIBUTIONS TO *AMATEUR RADIO*

Amateur Radio is a forum for WIA members' amateur radio technical experiments, experiences, opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for possible publication. Articles on computer disk or via e-mail are especially welcome. The WIA cannot assume responsibility for loss or damage to any material. A pamphlet, *How to Write for Amateur Radio*, is available from vk3br Communications Pty Ltd on receipt of a stamped, self addressed envelope.

BACK ISSUES

Available direct from the WIA Federal Office, only until stocks are exhausted, at $4.00 each (including postage within Australia) to members.

PHOTOSTAT COPIES

When back issues are no longer available, photocopies of articles are available to members at $2.50 each (plus $2.00 for each additional issue in which the article appears).

DISCLAIMER

The opinions expressed in this publication do not necessarily reflect the official view of the WIA, and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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■ Viewpoint

Editor's Comment

Hopelessly Obsolete?

Last month I made a few remarks about the rate at which domestic electronic devices become obsolescent and eventually obsolete. Perhaps these terms need to be defined. I would say that "obsolescent" means that the device uses old but still functioning technology. Modern versions may work a little better but essentially do the same job.

Obsolete, on the other hand, means that the current technology is so much better than the old that the old is of no further value. It has been superseded and is now obsolete.

An example is anything which uses valve electronics. The change to solid state made things possible which had previously been impossible. For example, if the computers in the Apollo moon rockets had had to use valves they would never have left the ground! Transistors made it possible to walk on the moon!

And yet, so greatly has technology advanced since the 1960s, it is now possible to hold in one hand a package having more "computer power" than Apollo! This year, 1998, is the 50th anniversary of the invention of the transistor (by Bardeen, Brattain and Shockley).

Where will we be by 2048? Possibly using self-replicating logic structures of a storage density better than human brains? The only part we don't already have is the self replicating ability. It shouldn't be too hard to achieve in another 50 years, should it?

New Schedule

Until our May 1998 issue, the magazine had been typeset and printed by Industrial Printing and Publicity Pty Ltd of Richmond, Victoria. The May issue introduced a change to this arrangement, with the computer typesetting now being carried out by our Production Manager, Bill Roper, whose company vk3br Communications Pty Ltd has been producing the magazine under contract since January 1997.

It became apparent to Bill that now he was doing the typesetting it would be possible to shorten the production cycle from copy deadline to printer. This could either be achieved by making the date of publication earlier or by making the copy deadline later. For several reasons, the latter alteration was chosen, so that, for example, copy for this issue was not due until 12 June, whereas it would have otherwise been 8 June.

This change obviously means that material printed in each issue can be up to four days more recent than previously, even though it still is delivered to Australia Post on the same day (for this July issue, on 30 June). News items in particular can be nearly a week more topical and the change increases the efficiency with which time is utilised. The Publications Committee meeting each month will now be on the second Tuesday rather than the first. Let's see how it works out!

Bill Rice VK3ABP
Editor **ar**

WIA News

Prepared, researched and compiled by
David Thompson VK2NH
Federal Public Relations Co-ordinator

WIA Federal President Pays Tribute to Barry Goldwater K7UGA

The loss of Mr Goldwater to the amateur community leaves a big hole, said Wireless Institute of Australia Federal President Peter Naish VK2BPN on hearing of the death of the former US Senator and one-time presidential candidate who died on 29 May in the United States at the age of 89.

The man who said ham radio was more than a hobby, had been described as "a super ham" who was "concerned about the future of ham radio". American Radio Relay League Executive Director David Sumner K1ZZ said that, of amateurs in the public sector, Barry Goldwater was "without peer". He retired from politics in 1986.

Barry Goldwater was responsible for the piece of legislation that was approved in 1982 by Congress and signed by president Ronald Reagan. That piece of legislation, to become known as the Goldwater Amateur Radio Legislation, was to recognise ham radio as a public service, giving amateurs recognition and privileges within the community they had not known before. One of those privileges was the 10 year licensing term enjoyed by US amateurs. Also, he worked on legislation to set up reciprocal licensing facilities with other countries.

He was one of the initial organisers of MARS, the Military Amateur Radio Service Network, a network providing communications between US armed service personnel in Vietnam and their families back home. His station was one of the key stations, operational 24 hours a day and had, at its busiest times, a crew of six handling traffic and doing phone patching.

MARS frequencies were just outside the amateur bands, as authorised by the FCC, and proved to be a tremendous morale boost for both the US Servicemen and their relatives. It also brought amateur radio to the limelight in the US, causing an upsurge in the number of active radio amateurs in that country.

K7UGA's name will continue to be heard and appreciated in amateur circles as his name is given to the $5000 Goldwater scholarship which was founded in 1983 and is awarded by the ARRL each year to an amateur with the aim of encouraging a spirit of achievement and dedication in the field of communication.

"He was a politician, but he was a radio enthusiast and enjoyed making a QSO along with the best of us", said Peter Naish in conclusion. He added, *"Barry Goldwater will be missed, but the spirit lives on"*.

Notice to WIA Members

In the May 1998 edition of *Amateur Radio*, an apology was published in relation to a defamation claim made by Mr Deane Laws against the Wireless Institute of Australia.

This apology was published as part of the settlement of District Court proceedings. The proceedings have now been dismissed by the District Court, Southport.

We wish to stress to members that the claim was covered by a policy of insurance held by the Wireless Institute of Australia.

Further, there will be no increase in members' fees or advertising costs as a result of the settlement reached.

Relaxing Morse Code Requirements

The Radio Society of Great Britain has announced that it is ready to relax the Morse code requirements as an entry level to the HF amateur bands. The announcement by the RSGB President Ian Kyle GI8AYZ said the important change of RSGB policy was aimed at turning around the decline in the number of people coming into the hobby.

He went on to say, *"At its meeting in April, Council agreed that it would open discussions with the Radiocommunications Agency to begin a process of liberalising access to the HF amateur bands"*.

He also said that they saw the first step in this process to be the issue of an additional licence giving full access to the

HF bands to existing Class B licensees, subject to a five words-per-minute Morse capability.

Apparently the Society will be taking the subject of the maintenance of Morse as a mandatory IARU requirement along to the ITU World Radio Conference in 2001. According to the RSGB President, that is when the matter of Morse as a necessary qualifier for access to the HF bands is likely to be considered.

Mr Kyle said, *"Our hobby is in need of stimulation"*. However, after making the statement which appeared to give Morse code a limited future, the President said, *"The Society wishes to see Morse and segments of the HF bands preserved as core elements of amateur radio globally"*.

He concluded by saying that, *"The Society should take a forward looking and progressive stance on the future of our hobby"*.

ACA Withdraws Two Shop Front Services

The Australian Communications has withdrawn two shop fronts providing across-the-counter services to clients at Coffs Harbour in New South Wales and Townsville in Queensland. The announcement from the ACA said that the move is the result of restructure of the customer service delivery functions which will see the implementation of a new regional structure.

Despite the change, a technical presence will be retained in both centres to provide spectrum maintenance services including interference investigation and audit and compliance activities.

Spectrum access services such as licensing and assignment of frequencies are being handled by ACA area offices in Newcastle for Coffs Harbour, and North Queensland for Townsville.

The ACA Newcastle area office contact details are: Suite 1B, 239 King Street, Newcastle; PO Box 5124, Newcastle West 2302; Telephone 02 4929 6899; Facsimile 02 929 6068.

The ACA North Queensland office contact details are: 2nd Floor, Cairns Commonwealth Centre, 107 Lake Street, Cairns; PO Box 1225, Cairns, QLD 4870; Telephone 02 4031 4266; Facsimile 02 4051 3737.

The change took effect at Coffs Harbour on 12 June and at Townsville on 26 June 1998.

More Threats of Interference to the High Frequency Spectrum

Australian communications authorities are yet to comment on reports carried by the Radio Society of Great Britain's news service, quoting media news about the use of the electricity mains to distribute high speed data signals for the Internet and similar services.

An item on the subject appeared in the EMC column in the October 1997 issue of *RadCom*.

The principle is to inject a modulated carrier at a frequency somewhere between 2 and 10 MHz, and with a bandwidth of about 1 MHz, into the distribution cables at the local electricity sub-station. A modem at the consumer's premises will receive the signal and extract the data. A similar return signal will be injected at the consumer's premises. It is feared that 'leakage' from such a system would cause severe interference, as emissions would take place wherever the cables emerged from the ground, including via lamp posts.

The RSGB EMC Committee is taking part in meetings chaired by the Radiocommunications Agency, at which the company proposing the system, as well as users of the HF band, are present.

The need to protect the amateur bands, and other vulnerable services, from interference has been put forward very strongly. The committee is also putting forward the view that the propagation properties of the HF bands are unique, and that every effort should be made to avoid unnecessary pollution of any part of the bands.

Appropriate comment is being sought here in Australia as to the possible effect of such a system and whether it would in fact be implemented in this country.

CW Will Be Around For a While Yet

Newly appointed International Amateur Radio Union Region III Liaison Officer for WIA Federal, Grant Willis VK5ZWI, agreed that, while the matter will attract much discussion at the ITU World Radio Conference, we should realise that Morse code is still an integral part of the existence of amateur radio and is not going to disappear overnight nor even in the foreseeable future.

Grant's appointment comes in the wake of the fact that long-time IARU Region III WIA Federal Liaison Dr David Wardlaw is now a serving member of the International Amateur Radio Union Region III as a Director.

US Hams in Recreational Convoy

Early in April 1998, in fact just prior to the Easter weekend, 40 radio amateurs arrived at Sydney.
They were met at the airport by Geoff McGrorey-Clark VK2EO, the then President of the WIA (Wireless Institute of Australia) NSW Division and the Secretary of the Division, Eric Fossey VK2EFY. These hams from North America were preparing for an RV, or "Recreational Vehicle", assault on the roads of eastern Australia.

"RVing" is a big way of life for the North America. In Australia, we call them campervans or motor-homes, which is exactly what they are.

It is said that, in the USA at any time, there are a million of them on the road. A few months back 600,000 vans gathered at Quartzite, Arizona. Comprehending 1,000 vehicles in one location is difficult, but 600,000 defies the imagination. These vehicles are all capable of "dry docking", meaning they carry their own power and water and have their own septic systems. Most are retired people. Some spend most of their lives travelling in these RVs, others chase the warm weather and some are just casual RVers.

As everyone is from a different walk of life, they often group by their mutual interests. One group is comprised of radio amateurs who maintain regular radio nets and have some excellent communication systems when travelling (the cell-phone doesn't work everywhere as we so often find here). Last year a few of them toured Europe and the year before Alaska.
Two years ago, two of these radio amateurs came to Australia to meet with friends in King Creek that they had been in regular contact with via HF radio. It was decided to bring a group on a trek "down-under".

On the day they arrived, Geoff and Eric arranged for them to receive their Australian radio call signs from the ACA which they used with their portable radio equipment whilst travelling. They had to pick up their RVs from Arncliffe and drive them to Narrabeen on the north side of Sydney. This meant travelling through the City at peak hour which must have been quite an experience for both the travellers and the locals. That day was when the big rain came and the travellers had their first real life experience as North Narrabeen (in Sydney's northern beaches area), went under water. What a welcome for the travellers.

On Sunday, after attending as guests of the WIA Radio Broadcast from Dural near Sydney, they joined the holiday makers on the Pacific Highway and headed for Port Macquarie Sundowner Caravan Park. No mishaps occurred in spite of driving on the opposite side of the road from their norm.

On the Sunday and upon their arrival in Port Macquarie, David Pilley VK2AYD was there to meet the band of trekkers. Monday morning they were introduced to Kingfisher Park and the wild life of Australia, especially the koalas and then it was over to "Pilley's Pad" at King Creek where they were met and hosted by the Oxley Region Amateur Radio Club to a good Aussie BBQ. At long last the face behind the voice was seen and North met South. No one got lost as they all had good radio communications (and maps)!

On arrival at King Creek, the ORARC didn't know whether to put these 20 RVs into a circle (with a tow truck in the middle). The "Wagon Master" was Dick Glover, who hails from Bucks County, Pennsylvania and said he preferred whatever was best for Australia. Browns' cows won! When asked about driving on the "other side" of the road, there were no complaints. The only mishap so far was that one of the vans had a flat tyre and when trying to make the change found the spare was flat! One interesting gadget they had was a weather predictor and they confirmed there would not be any rain on Monday - (perhaps our weather bureau should be looking at these).

From Port Macquarie they headed north to Brisbane and turned in their RVs after which they flew over to New Zealand for a tour of the North and South islands.

It may seem just an ordinary campervan trek to most, but for the radio amateurs in the Hastings area and the Americans, it was just great to meet and see the face behind the voice.

[Story compiled by David Pilley VK2AYD and edited by David Thompson VK2NH]

MIR Making News in the Media

Peter Ellis VK1KEP found himself thrust into celebrity status in early June after he talked to Andy Thomas VK5MIR on Saturday, 5 June.

Andy told Peter that he was the first VK1 he'd spoken to after which Peter decided to try for some local publicity for amateur radio. He wrote and sent a media release to the local media, and soon found himself the centre of a media frenzy.

He appeared on local radio twice, the front page of the Canberra Times, on TV in Canberra and Sydney, on ABC Radio National, and even ABC Radio in Darwin!

Peter tells us that you can see the story of this unexpected Public Relations coup for amateur radio at Peter's Web site *http://www.geocities.com/CapeCanaveral/5796/vk1kep.htm* .

As Peter says, *"Amateur radio couldn't buy that sort of publicity"*. Shortly after Peter worked MIR, Fred VK1FH made the second VK1 contact with Andy VK5MIR.

Amateur Radio Growing in Australia

There has been a recent report of 'Good News' on the growth of amateur radio in Australia. The figures, according to *Q-news*, were obtained by Bob ZL2CA from the Australian Communications Authority. They show that, with revised figures supplied to him from the ACA for April, we are a "growing mob". Not

a lot, but we have made gains in ALL personal licence classes during 1998.

Table 1 - VK Licence Statistics for 1998

Lic Type	Jan	Feb	Mar	Apr
Unrestr'd	9521	9514	9546	9533
Intermed	1357	1353	1361	1362
Limited	2800	2797	2793	2802
Novice	1955	1964	1958	1963
Nov Ltd	268	269	272	281
Total	15901	15897	15930	15941

New Home For the Sydney Office of the ACA

The Sydney Area office of the Australian Communications Authority has now moved from its long-time location in North Sydney and has taken up residence on the other side of the Harbour in the Sydney Central Business District.

The new street location is Level 2 at 55 Clarence Street, Sydney, while their postal address is Box 5295, GPO Sydney 2001. If you are planning to use the telephone to contact them, the number to call is 02 9245 4000. The fax number is 02 9245 4099.

The body has had many different titles such as SMA, DoTC and now ACA. Under these different names, the functions have been carried out around the North Sydney area for many years. Besides the last location of the office in Miller Street, there have been offices in Berry Street, North Sydney and in Balls Head Road, Waverton as far back as the fifties.

Amateur Radio Certificates

To encourage WIA members to contribute articles to *Amateur Radio* magazine, the Publications Committee has decided to award certificates in several categories.

The time-honoured Higginbotham and Technical Awards, made annually, will now include certificates as well as cheques for $100. In addition, attractive, coloured certificates will be awarded each month for "Best Contribution".

The first winner of a *Best Contribution Award* certificate is Les Brennan VK4XJ, whose article **50 Years of Mobile Radio Operation** was judged the best in the May 1998 issue of *Amateur Radio*.

The June 1998 winner of the *Best Contribution Award* certificate is Paul McMahon VK3DIP for his equipment review of the **Yaesu VX-1R Miniature Hand Held Transceiver**.

[Bill Rice VK3ABP]

ADF to Modernise its High Frequency Communications System

Australia's Department of Defence recently signed contracts valued at more than $AUS382 million with Boeing Australia Limited to develop, support and operate a new high-frequency radio communications system for the Australian Defence Force (ADF).

It will comprise four ground communication stations located in the Riverina, Townsville, Darwin and the North-west Cape of Western Australia. Each station will be remotely controlled by network management facilities in Canberra. The network is scheduled to commence operations in 2002.

[Source: The IREE Society MONITOR, Volume 23, Issue 2, 1998 - Contributed by Ray VK6PW, Old Timers Newsletter Editor Clem VK6CW and Q-news]

Support the WIA in order to protect amateur radio frequencies

Operating

MIREX Comes to Gormandale

Chris Morley VK3KME
Secretary
WIA Eastern Zone Amateur Radio Club
PO Box 459
Moe VIC 3825

Students from the Gormandale and District Primary School recently had a unique opportunity to talk to Australian astronaut Andy Thomas aboard MIR.

They were part of a MIREX program whereby a school is selected and a time slot nominated by Moscow and NASA for a dedicated QSO.

Gormandale is a small rural town about 20 km SE of Traralgon in Gippsland. School Principal, Rob Higgins VK3JKA, nominated his school for the program about four years ago, but it wasn't until Andy Thomas apparently influenced the choice of an Australian school for the next MIREX that some serious planning commenced at Gormandale.

Rob enlisted the support of other members of the WIA Eastern Zone Amateur Radio Club and a planning meeting was held at the school to check out the site for horizon elevation, antenna possibilities and the general room set up. Even though Gormandale is in a valley, the horizons for a SE-NE satellite pass were low enough to see most of the pass.

Naturally, the grade 5/6 children were delighted to have been chosen to participate in the MIREX program, but what did it all mean for them?

Rob explained to them that a bunch of amateur radio operators would set up two way radio equipment in their classroom so that they could talk directly to the orbiting Andy Thomas, who is the NASA astronaut on board the Russian MIR space station.

The children were each asked to think of a question that they would like to ask Andy and those with the most interesting ones were chosen to speak on the day. The students had to learn microphone technique and practised their questions over and over.

Word came from NASA via Graham VK5AGR that a time of 0659 hrs Sunday had been chosen for the contact; not exactly the most friendly time for the school children, but they were so keen that any time would have been all right.

The prime considerations with the radio station set-up were reliability and signal acquisition. It was decided to set up two completely independent radio systems at opposite ends of the large double class room. Each system would have its own antenna system and backup battery power supply.

Ralph VK3WRE tested different types of antennas including vertical, horizontal beam, turnstile and discone to determine which provided the best signals from the space station's antenna. Ralph's home-brew discone (70 - 1296 MHz) came out tops, so it was decided to use it in conjunction with a 10 element Yagi to provide more gain at low elevation.

About two weeks before the assigned date for the QSO, fresh word came that 0659 hrs was not a good time for the other cosmonauts as it would be close to midnight Moscow time (on which the crew is based) and Andy could disturb their sleep.

With two days' notice, a new time of 1559 hrs on Wednesday, 27 May was allocated by Moscow via NASA and VK5AGR. Final planning could now commence.

Just in case Murphy was lurking somewhere, each piece of equipment was tested and double checked before being set up in the classroom. All systems were go.

Close to two hundred people, including students, teachers, parents and the media, assembled for the countdown. Using satellite tracking software, the MIR space station's path and position were projected on to a large screen for all to see.

Rob VK3JKA began calling VK5-MIR and the students counted down as MIR approached the horizon.

There was a huge sigh of relief when Andy's voice first came crackling through the radio. After a brief introduction and welcome by Rob, the children's questions started. They covered a number of

The Gormandale Primary School students who questioned Andy VK5MIR.

interesting topics and included the following:

"Do you press buttons to fly the space ship?"

"We have a control system up here which uses a computer and so you enter commands on the computer keyboard to fly the vehicle that way..."

"How many years training did you need to become an astronaut?

"I did one year's basic training to become an astronaut and then I got my first flight on the Shuttle. For this flight I did a year of training in Russia on all the Russian space craft systems - that was last year. I put quite a lot of time in to get to this flight. It does take quite a lot of training because there's a lot you have to learn."

"If you spun around in space would you be able to get dizzy?"

"Well, yes you would. That can happen, actually, because we float around inside the cabin and of course sometimes you float head over heels and upside down - you actually can make yourself dizzy if you do too much of it - believe it or not. Your balance system is still working - it's a little messed up but it's still working so you can get dizzy."

The amateur radio operators who assisted at Gormandale Primary School: back row (l to r) Brian VK3BBB, Bill VK3EBQ and Ralph VK3WRE; front row (l to r) Rob VK3JKA, Chris VK3KME and Peter VK3KAI.

"If you had a yo-yo in space would it work like on earth?"

"That's an interesting question actually - I had not thought about that. I don't think that it would work actually. You need gravity and we don't have gravity up here so there would be nothing to make it fall. I don't think it would work at all. Some time we ought to try that. It would be interesting to see what happens."

Andy's voice came over loud and clear for almost the entire ten minute pass and everybody present was captivated by his clear and uncomplicated answers. As he finally disappeared over the horizon, some 2000 km away, we said goodbye, wished him a safe return to earth and then lost contact. Spontaneous applause broke out in the class room and there were smiles all around. The planning had been worth the effort and the students had something that they would remember for a long time.

So that other schools in the Latrobe Valley could share the experience, both the uplink and downlink were re-transmitted and radio operators provided coverage in three other local schools.

WIN TV covered the event and managed to return to their news studio in time to present a segment a couple of hours later on their 6 pm evening news.

Our radio club, and amateur radio in general, received a welcome boost of publicity and demonstrated to the students and local community just how we could bring space into the classroom.

ar

Transmitters

The DSB40 - A 40 Metre DSB Transmitter

Peter Parker VK1PK
7/1 Garran Place, Garran ACT 2605
E-mail: *parkerp@pcug.org.au*
Home Page: *http://www.pcug.org.au/~parkerp*

Introduction

Many people are daunted by the complexity of building an SSB transmitter, but would still like to construct a voice rig. This article describes a simple low powered double sideband suppressed carrier (DSB) transmitter for the experimenter.

Because no crystal filters or frequency conversions are required, it is considerably easier to build than an SSB transmitter of equivalent power. Operating on forty metres, it features a variable crystal oscillator (VXO), allowing a degree of frequency agility. Contacts ranging from 200 to 1000 kilometres have been made with this rig. A 'bare bones' approach was taken to keep costs down. However, a list of suggested improvements is given elsewhere in this article.

Circuit Description

The transmitter's frequency is determined by the VXO. Depending on the crystal, variable capacitor and series inductor used, between five and fifteen kilohertz frequency shift per crystal should be obtainable.

The operator's voice is amplified by the 741 microphone amplifier. A telephone ear-piece was used as the microphone. Its output nicely matched the amplifier's driving requirement, so no microphone gain control was needed.

Signals from the VXO and the microphone amplifier are brought together in the balanced modulator, which uses an NE602 chip The 10 k potentiometer is adjusted for minimum carrier. The output from this stage is a signal consisting of two voice sidebands and a greatly reduced carrier.

The following three stages amplify the NE602's output to a level suitable for communication. The circuits used are similar to those used in many transmitters developed by Drew Diamond VK3XU. Expected power output is around two watts. This can be varied by adjusting the 10 k bias potentiometer. Harmonics are attenuated in the pi-network.

Push-to-talk operation is included in this transmitter. With the microphone button up, the antenna is connected to the receiver via the T/R relay. When the PTT is pressed, power is applied to the transmitter and the antenna is switched over to the transmitter's pi-network.

No receiver muting circuits are incorporated. However, such a facility could be added by modifying the receiver and making use of the spare contact on the relay, which is at 12 volts during reception. A simpler alternative is to wear headphones when operating and make use of the receiver to continually monitor transmission quality.

The receiver used with the transmitter could be either a general coverage or amateur-bands only type. A Sony ICF-7600D, which features a digital frequency display, all-HF coverage and a BFO for SSB is a good choice, particularly for portable work. Alternatively a home-brew direct conversion set could be used. To take advantage of the transceive operation possible, the set's internal VFO should be disabled and the output from the transmitter's VXO used to drive the receiver's mixer. However, if this is done, modify the connections to the VXO so that it runs during both transmit and receive.

Construction

Build the transmitter in a metal case. A 19 x 12 x 6 cm die cast box is ideal.

A variety of construction methods can be used to mount the components. Indeed, the prototype includes stages assembled with point-to-point wiring (VXO), conventional through-hole printed circuit board (microphone amplifier, balanced modulator, RF amplifier), matrix board (T/R relay and pi-network) and components soldered direct to printed circuit board material (driver and power amplifier). Whatever methods are chosen, keep RF-carrying leads short and direct. As well, mount the PA as far as possible from the VXO to minimise the risk of feedback problems.

Construct and test each stage in turn. Assembly should take place in the order of VXO, microphone amplifier, balanced modulator, amplifier, driver, and power amplifier/pi-network/transmit-receive switching.

VXO

The oscillator circuit described here should work first time. The main challenge is to obtain the maximum amount of frequency swing consistent with good stability - with a rig such as this, more VXO swing equals more contacts.

The pulling range obtained depends on a number of factors, including the crystal type (HC6/U type is best), the number of crystals used (two in parallel are better than one), the value and type of the 22 µH series inductance, the minimum capacitance of the variable capacitor and the values of other capacitors in the oscillator (in this case the two 1000 pF units).

Allow at least a half day to build and perfect this circuit. If you have only one crystal, omit the crystal select switch; this merely adds capacitance which detracts from the pulling range. Also avoid the use of crystal sockets for the same reason. If operation is unreliable or unstable, try reducing the value of the 22 µH series inductor.

Also, experiment with different types of series inductors (10-20 turns on a two

hole TV balun core performs well in VXO circuits) and try varying capacitor values.

After each change, measure the frequency shift and short-term frequency stability; if the frequency shifts 200 Hz in a few seconds, there is definitely a problem, and you may be trying to pull the VXO too far.

Speech Amplifier

This stage is the easiest to construct and test.

When it is finished, apply 12 volts, a microphone, and connect a pair of high impedance headphones across the output (between the free end of the 100 nF capacitor and earth).

Talking into the microphone should produce a sound in the headphones.

Balanced Modulator

Again this stage should be fairly straight forward.

After verifying the operation of the 78L05 voltage regulator (by checking the voltage on pin 8 of the NE602), attach a piece of wire to pin 5 of the NE602 and bring it near the antenna socket of a 7 MHz SSB receiver.

A carrier signal from the transmitter should be audible when the receiver is tuned to the VXO's frequency. If not, insert a screwdriver or short length of wire into the receiver's antenna socket for greater signal pickup.

Speaking into the microphone should cause your voice to be audible on the receiver. Adjust the receiver's RIT control for best clarity. The signal should be clear and undistorted on both sidebands. The carrier will be audible if the receiver is detuned slightly. Adjust the 10 k potentiometer for minimum carrier, this should occur when it is near the middle of its rotation.

RF Amplifier Stages and Pi-Network

These stages are built and tested individually. There are two adjustments, one to bring the collector circuit of the 2N2222 to resonance on 7 MHz, and the other to vary the bias on the PA's gate.

The first amplifier uses a T50-2 iron powder toroid. It has 13 turns on the primary and three turns on the secondary. The remaining two stages are broadbanded. FT50-43 ferrite toroids are used here. Both toroids have seven turns, bifilar wound. Enamelled copper wire of around

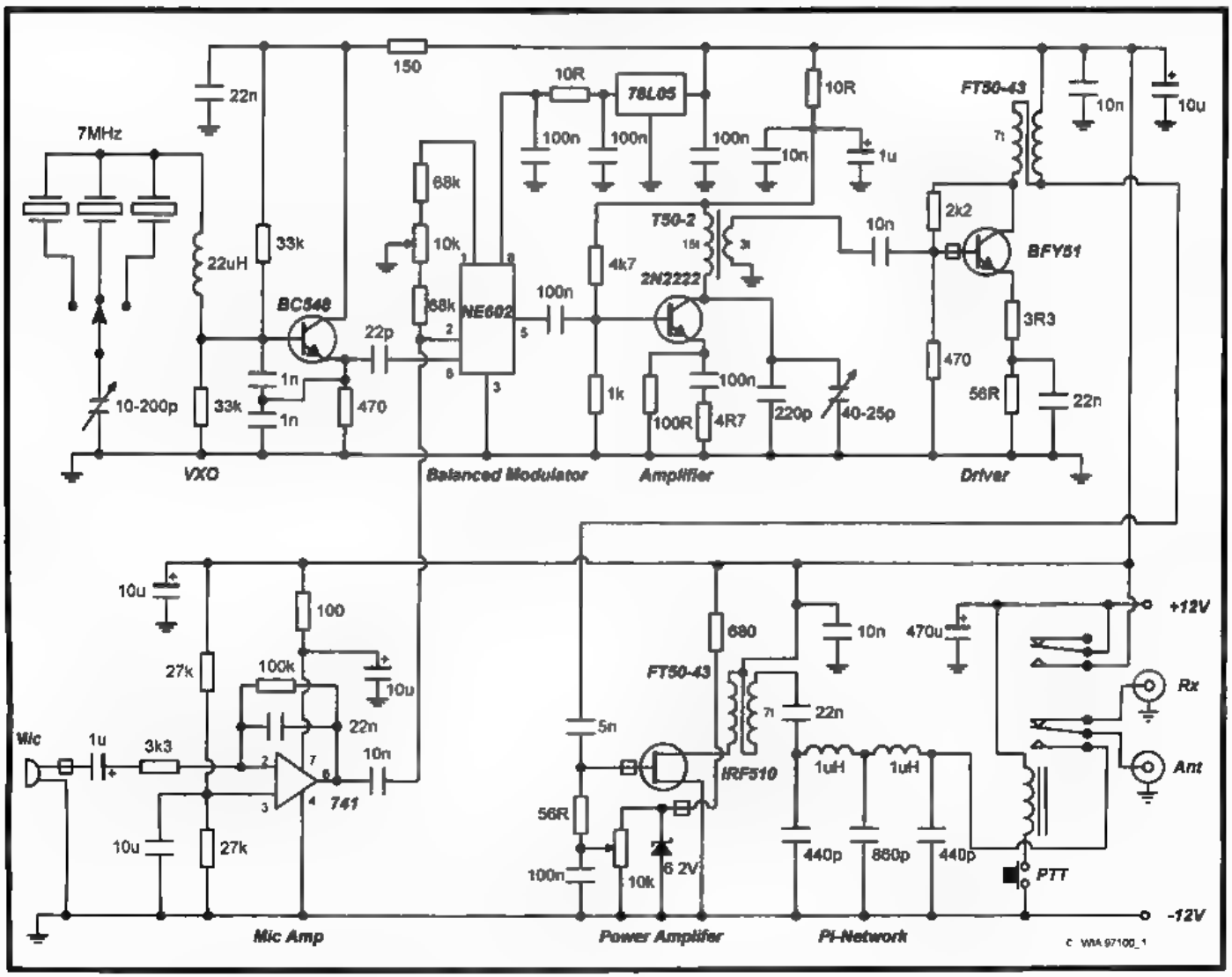

Fig 1 - Schematic of the DSB40 DSB transmitter.

0.4 mm diameter was used in the prototype.

The inductors used in the pi-network are 1 µH prewound units obtained from salvaged electronic equipment. 13 turns on a T50-2 toroid would be a good substitute.

The odd values in the pi-network are due to the use of salvaged mica capacitors of non-standard values. In some cases two had to be wired in parallel to obtain the correct value. Variations of ten or twenty pico-farads are unlikely to dramatically affect pi-network effectiveness.

The driver and PA stages are amongst the most difficult stages to build and test in any QRP transmitter. The difficulty is magnified in SSB/DSB equipment due to the requirement for these stages to operate linearly.

Maladies which can affect transmitter RF amplifier chains include distortion to the transmitted audio (due to non-linearity), insufficient drive to the next stage, and the generation of spurii (either on specific frequencies or as broad-band hash). At times such problems may not be apparent with a 50 ohm dummy load connected, but will show up when an antenna or antenna coupling unit is connected.

Reference 1 suggests cures for these problems. In every case it is important to isolate the offending stage and apply remedies to it. Along with optimising VXO coverage, troubleshooting the driver and PA stages can be the most time-consuming part of constructing transmitters such as this.

Transmit-Receive Switching

The transmit/receive scheme used in this transmitter uses a single DPDT relay. One set of contacts switches the antenna between transmitter and receiver. The other set applies 12 volts to the transmitter when in use. Note that, when in receive, no part of the transmitter is powered up. This eliminates the possibility of interference being caused to the receiver by stray radiation from the VXO.

Operation

Operating the station requires that the transmitter and receiver be brought to the same frequency. This can be done by switching in the receiver's attenuator and adjusting the VXO until the carrier (which should be considerably weaker than the sidebands) is zero beat on the receiver.

Speaking into the microphone should result in a signal that is on the same frequency to which the receiver is tuned. Operating is otherwise similar to using any other PTT-controlled station. However, as there is no receiver muting, headphones should be worn during transmit to prevent audio feedback.

Results

From VK1, contacts have been made with VK2, 3 and 5 with this transmitter. A full-sized dipole or better is recommended for best results.

Improvements

The transmitter as described is capable of making random contacts on forty metres throughout South-eastern Australia. However, several changes can be made to improve results obtained and ease of operating considerably. These include:

1. Extended VXO pulling range, either through using a twin crystal VXO or a 3.58 MHz ceramic resonator VXO and a frequency doubler;
2. A direct conversion receiver to avoid the need for a separate receiver; and
3. A linear amplifier to boost power to 10-30 watts.

Obtaining Parts

The prototype transmitter was built largely from junk box components. The most expensive component is the 7 MHz crystal. Some suppliers sell 7.159 MHz crystals for a few dollars. These are useful for testing, but are in an unpopulated part of the band, and contacts are likely to be rare unless prearranged.

A frequency somewhere between 7.060 and 7.100 MHz is likely to be most successful. Such a crystal can be ordered from suppliers such as J & A crystals. Expect to pay around $20 for a new one. 40 metre crystals sometimes also appear at hamfests and junk sales. Where possible, buy two to take advantage of the greater pulling range available when using two crystals in parallel.

Other hard-to-obtain components, such as the NE602, IRF510 and toroids should be available from suppliers such as Stewart's or Truscotts. Polystyrene capacitors are recommended in the pi-network and the VXO, and are sold by Dick Smith Electronics. DSE also sells transistor radio-type variable capacitors, which could be substituted for the air-spaced unit used in the prototype.

The compression-type trimmer is not easy to find new, but is common in early transistorised HF radio equipment. Alternatively, the constructor could raise the value of the 220 pF capacitor so a smaller, more modern trimmer could be used instead.

Reference

1. DeMaw/Hayward, Solid State Design for the Radio Amateur, ARRL, 1986

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Production of *Amateur Radio* Magazine

Expressions of Interest

The current agreement for production of *Amateur Radio* magazine expires with the December 1998 issue. The Directors of the WIA (Federal) are seeking expressions of interest from companies or individuals interested in producing the magazine on behalf of the Institute.

Expressions of interest may include any or all of the components of production of the magazine but, as a minimum, must cover the management and preparation of layout, printing and circulation via Australia Post.

Further enquiries can be made to Martin Luther on 08 8340 1666 (BH), 08 8524 3440 (AH) or by fax on 08 8524 3836.

Written expressions of interest should be sent to WIA Federal, PO Box 2175, Caulfield Junction VIC 3161 by 31 July 1998.

■ Equipment Review

The Magellan GPS Pioneer

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About 15 years ago, when I was sporting the callsign EI6BTB, I drove from my home in Cork to spend a weekend with some friends in the seaside hamlet of Cleggan, County Galway. The drive was a long one, about six hours, and it was well after dark when I passed through the village of Clifden, where Marconi conducted his famous trans-atlantic communication experiments early this century.

Leaving Clifden, heading north, there is a sign off the main road, marked "Coast Road", and having been told that Cleggan was by the sea, the coast road seemed a reasonable choice. As they say in the movies, that was a big mistake...

I fully appreciated the extent of my mistake several miles later, when the "Coast Road" became narrow and twisted, and developed a luxuriant grass strip down its centre. But it was too narrow to turn around, and I persevered, reasoning that I had gone so far that surely this narrow winding track must lead somewhere.

And go somewhere it did. After a full 20 miles, the Coast Road rejoined the main road I had left an hour before; a road sign marked this happy reunion: it read, "Clifden, 2 miles". Experience, the saying goes, is what you get just after you really could have used it!

Not long after, Global Positioning satellites became a reality and, in recent years, the price of this wondrous technology has become ever more accessible. The Magellan GPS Pioneer is a recent arrival on the scene, and it was on a different "Coast Road", namely the Queensland Coast and Northern New South Wales, that I evaluated this unit.

At first glance, the Pioneer resembles an Amateur HT, or a mobile phone (see photo.) The obvious differences are a much larger display, and the lack of a numeric keypad.

The unit is of a fairly rugged construction, with the antenna an integral part of the case. The case itself has a rubber backing, which allows the unit to sit still on a car dashboard without moving around. The keypad is also rubber (reminiscent of the old Sinclair Spectrum computer); the main control is a four-way "cursor" style control, which is surrounded by seven smaller buttons, labelled, PWR (power), MENU, GOTO, ENTER, NAV (navigate), MARK, and a light bulb (back light).

In terms of programming complexity, setting up the Pioneer is no more difficult to set up than the average Amateur HT. The larger display allows sufficient "prompting" for most operations, though I did have to refer to the slim operating manual on a few occasions.

I have to admit, however, that I suspected some April foolery when I first set up the unit. When I pressed the MENU button and accessed "EZSTRT" (Easy start - God bless American English!) the first thing the unit did was to ask me where I was! Somebody's idea of an Irish joke for an old EI, perchance?

No, it was simply to give the unit an idea of which GPS satellites were expected in the area at the time. According to the manual, if you move more than about 300 miles with the Pioneer switched off, you need to perform this operation so that the unit can "get its bearings".

The remaining "EZSTRT" menus set various operating and display parameters,

At first glance, the Magellan Pioneer (at left) resembles an amateur HT such as the Yaesu FT-50.

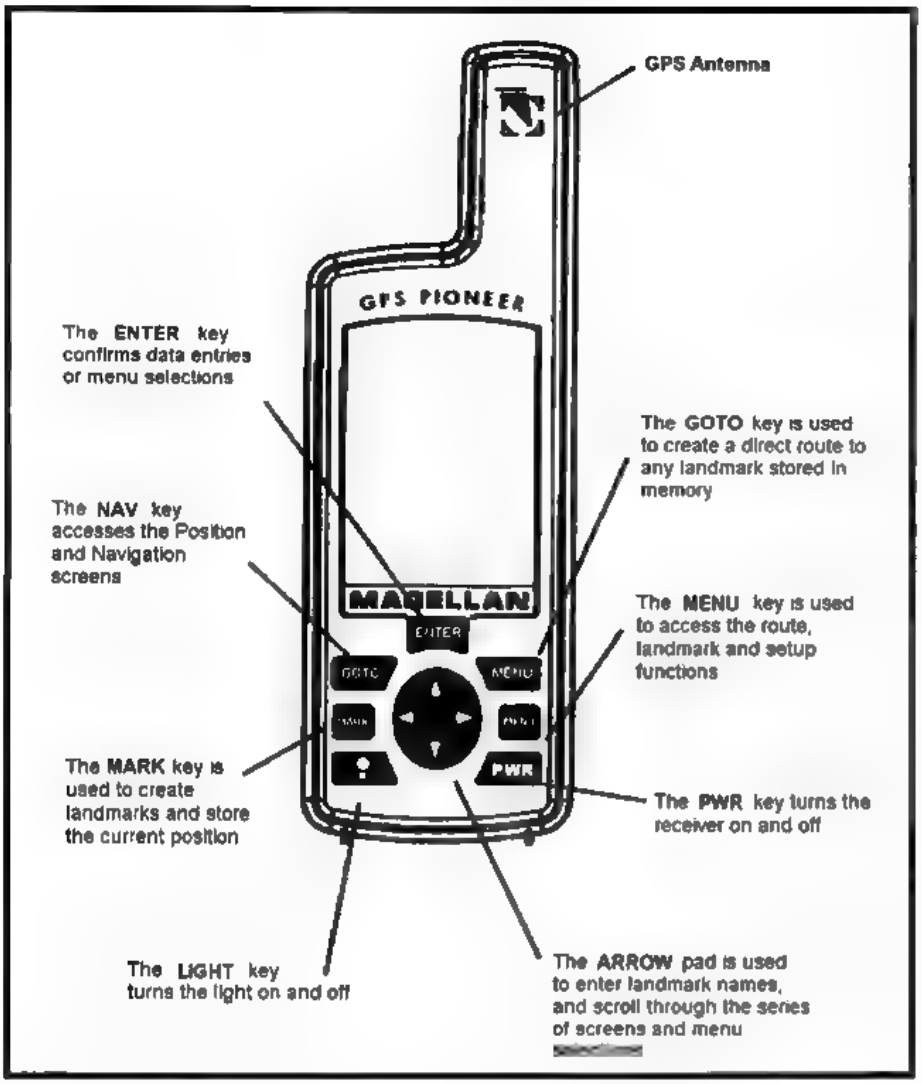

Fig 1 - The front panel and controls of the Magellan Pioneer.

such as map datum, units (miles, km, etc), time display (12 or 24 hour, or UTC), north reference (magnetic or true), co-ordinate display (deg/min/sec, UTM, Irish(!), etc.) There is also a demo mode, the usefulness of which eluded me.

Once the EZSTRT is complete, all you need to do is place the Pioneer somewhere with a clear view of the sky, and wait. The unit can track up to 12 satellites at a time, requiring at least three visible birds to triangulate one's position. It normally takes several minutes to track enough satellites to indicate your position, though if the unit does not have a clear view of the sky, it can take considerably longer.

During signal acquisition the unit displays a large circle (a sort of "compass") surrounded by a number of smaller circles representing the expected positions of the various satellites in the area. An arrow in the centre of the circle sweeps around, pointing at each satellite in turn, a small indicator showing the expected elevation above the horizon. If the satellite is visible, the small circle is filled in.

Once the unit is "tracking" (three or more satellites visible) the display changes to show your position on the planet using the co-ordinate system you chose during EZSTRT. This is of limited use unless you have a map or some other reference to hand. Pressing the NAV button changes the display to show your position relative to a pre-programmed reference point; pressing NAV again changes the display slightly to a form more suited to aeronautical use.

Reference points can be programmed in quite easily. I found Dick Smith's Australian GPS Location Guide quite useful in this respect, as I could look up my destination on a trip, program it in, and observe my position getting closer as I progressed. Up to 99 such "landmarks", can be memorised in this way. Your current position (eg a camp site) can also be memorised, allowing you to return to some arbitrary point later. Each memorised location can be labelled with a four character name.

Of course, nobody ever travels in a straight line (crows excepted, of course!) The GPS Pioneer lets you program in your journey with up to ten way-points, which makes following your progress much easier. At any given time you can check your distance and bearing towards the desired landmark. The display will also indicate your speed and direction.

However, I did have some misgivings about the reliability and accuracy of the unit. As I mentioned earlier, I tested the unit on the Gold Coast's Main Beach, which has more than its fair share of high rise apartment blocks. At times I found it quite difficult to get the unit to track, presumably because the apartment blocks were blocking the satellite signal. Even on the beach, away from the buildings, it would lose track.

In the national parks at Mount Warning and Binna Burra, the trees had a similar effect. I don't know how other GPS units would fare in similar circumstances, but if the Pioneer is anything to go by, then GPS and rainforests definitely do not mix!

What bothers me more was that the unit gives no obvious indication that it is no longer tracking (eg a beep, or blinking the displayed position would be good,

Low Cost GPS units for Amateur Applications?

The VK2 Division's Olympics committee (*http://marconi.mpce.mq.edu.au/wia/olympics.html*) is examining GPS applications for the games. Darryl Smith VK2TDS (*vk2tds@ozemail.com.au*) recently sourced one from the USA costing $US95.00 The unit resembles a computer mouse; it has no display or keyboard, its only interface being a serial cable. VK2TDS is looking to establish an Internet mailing list for those wishing to discuss APRS. Details at *http://www.tapr.org/gps/gps30pc.html*

GPS In a Nutshell.

Global Positioning System (GPS) is a satellite-based navigation system. Using as few as three satellites, one's position can be triangulated in three dimensions.

The satellites orbit at an altitude of about 21,000 km and transmit on two frequencies, 1575.42 MHz (called "L1"), and 1227.60 MHz (called "L2"). GPS receivers compute their position using the L1 and L2 carriers, plus Course Acquisition data ("CA") on L1, and Precise Codes ("P Codes") on both L1 and L2. The more of this information the GPS receiver uses, the greater the accuracy.

Typical accuracy of GPS is in the order of 25 metres, though Selective Availability intentionally degrades this to around 100 metres. Differential GPS, which uses a second reference receiver in a known position, can be used to "cancel out" the inherent errors in the system, giving accuracy in the order of centimetres (extracted from the Obsidian Hydration Analysis Service GPS page).

Internet enabled readers who would like to find out more about the Global Positioning Systems can start with the following Web links:

Starlink DGPS page: *http://www.starlinkdgps.com/faq.htm*

Peter Bennett's GPS FAQ (Frequently Asked Questions) *ftp://sundae.triumf.ca/pub/peter/*

Obsidian Hydration Analysis Service GPS Introduction page *http://www.ohas.com/gps.html*

John T Beadles' Introduction to GPS Applications *http://galaxy.einet.net/editors/john-beadles/introgps.htm*

John T Beadles' GPS Archives: *http://www.he.net/~jbeadles/gps/index.htm*

United States Coast Guard Navigation Centre GPS page *http://www.navcen.uscg.mil/gps/*

APRS - Amateur Radio Packet Position Reporting System *http://www.cave.org/aprs/*

Telson Communications GPS page - *http://www.telson.net/gpsfaqs.htm* (includes a rather uncomplimentary article on Magellan GPS Pioneer)

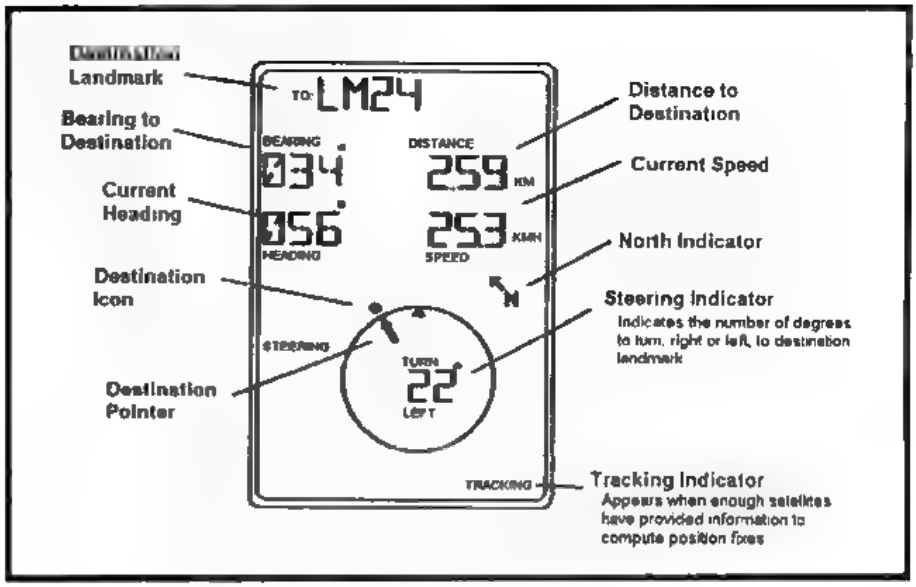

Fig 2 - Diagram of the LCD readout of the Magellan Pioneer.

rather than the small "tracking" flag tucked in one corner of the screen.)

I also wanted to know how repeatable the readings are, so several times I "marked" a particular spot, went off for a drive or a walk, and checked the "distance to landmark" when I returned. The indicated position was frequently off by as much as 600 metres!

Discuss GPS accuracy with anyone who has used one, and they'll start talking about "selective availability", which is the deliberate errors the US Department of Defence slips into the system from time to time. Presumably, this is to prevent unfriendly foreign powers from kitting out their guided missiles with GPS receivers. However, I have been told that selective availability is currently inactive, which may or may not be true; in any case, it should only account for errors up to about 100 metres.

Another correspondent suggested that GPS satellites at low elevations might not be as accurate as those overhead, which seems plausible. At this point I'm reserving judgement.

The Pioneer seemed to perform well enough sitting on the dashboard of the car during highway driving, though it is intended mainly for handheld use, for example when bush walking. I still have my doubts about its accuracy (600 metres is a hell of a long way in dense bush), and the loss of signal in the forests completely rules it out there. The concrete jungle is little better.

However, bear in mind that the Magellan Pioneer is the lowest cost handheld unit on the market. Those users who require a more sensitive unit for use in heavily forested areas (and even in the concrete jungle) will be interested in the forthcoming review of the Magellan GPS2000XL.

The GPS Pioneer will run on a pair of AA batteries for 24 hours; a cigarette lighter adapter is also available. The carry-case is optional, and there is no provision for an external antenna. APRS fans can forget about the Pioneer, as it has no external data port.

All in all, though, I found the Magellan GPS Pioneer easy to use and a lot of fun (notwithstanding many sardonic comments from the YL and her daughter about "boys and their toys"!).

When it came time to return the unit to its rightful owner, I had no trouble finding my way there.

The Magellan GPS Pioneer is available from Dick Smith Electronics (catalogue No D-3927) for $299. Accessories extra. Dick Smith's Australian GPS Location Guide (catalogue No B-2390) is $14.50.

Technical Abstracts

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Passive Narrow Band AF LC Filters

Some useful LC narrow band audio filters appeared in the *Technical Topics* column of Pat Hawker G3VA in *RadCom*, March 1998. These filters were the work of Jan Smeets ON4ASZ/EA3DPB. The filters were built using 88 mH toroids. These may be hard to obtain and a suitable alternative was given which is a TOKO 719VXA9032 80 mH coil.

The filters are for a centre frequency of 780 Hz or 800 Hz and are intended for use with high impedance headphones. They are driven from the 8 ohm audio output of a receiver. The filters are shown in Fig 1. The 10 micro-farad capacitors can be replaced with 20 ohm resistors and the 20 micro-farad capacitors with 10 ohm resistors at the expense of increased insertion loss. The preferable method of making the filters is to use capacitors.

The design at Fig 1(d) does not require an audio transformer. A low impedance termination can be accommodated and this is shown in Fig 2. In order to get the best peak, some experimentation with the capacitor values will be needed in all the multi-section designs. This is because of the spread of capacitor values due to manufacturing tolerances. Paralleling small value capacitors with the larger values should enable the sharpest peak to be obtained.

Also included is a threshold limiter to be used between the filter and the headphones. The purpose of this is to introduce some distortion to the tone. This is done to make the tone more acceptable by introducing harmonics to make the tone more musical. The limiter circuit is shown in Fig 3.

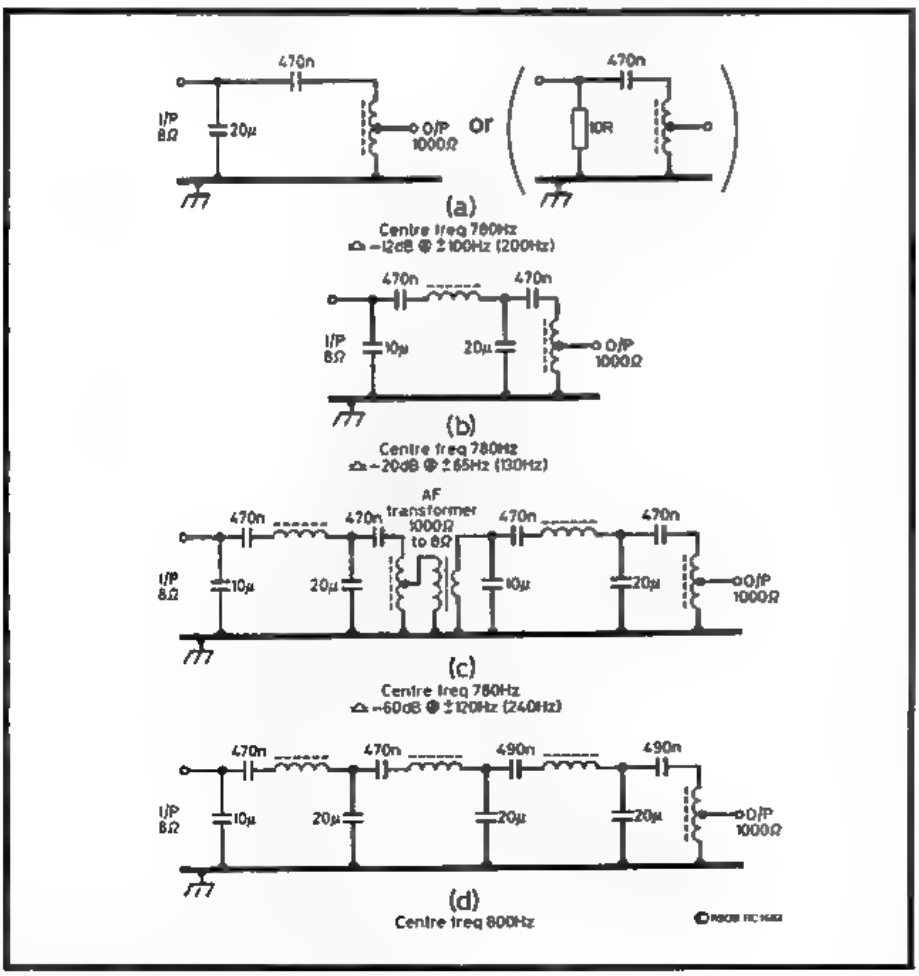

Fig 1 - LC audio filters using 88 mH toroids.

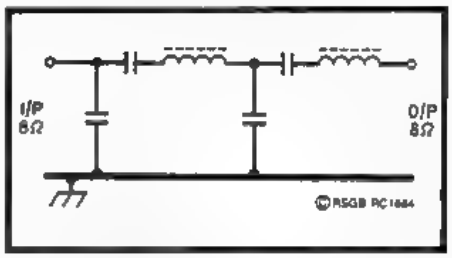

Fig 2 - Low impedance termination modification.

Power Attenuator

A power attenuator is a handy item to have. It allows a small sample of the output of a piece of equipment to be fed to an instrument. It is like having a tap on a dummy load but it is matched.

A means of making a power attenuator, with 30 dB attenuation using a power 50 ohm resistor or dummy load, was given in the *In Practice* column of Ian White G3SEK in *RadCom*, December 1997. The idea is to use a power 50 ohm resistor, such as used in a dummy load, as one arm of a T section attenuator. Only the input arm of a 30 dB power attenuator needs a significant power rating and the 50 ohm power rating carbon resistor is close enough to the value required for the input arm of a 30 dB attenuator.

The configurations of both T and pi attenuators, with both resistor values and power dissipations for a 30 dB attenuation, are shown in Fig 4.

The pi configuration needs a 790 ohm six watt resistor which is hard to achieve with low inductance and low stray capacitance. The T configuration is somewhat easier to realise as the six watt resistor R2 is only 3.2 ohms. This is much

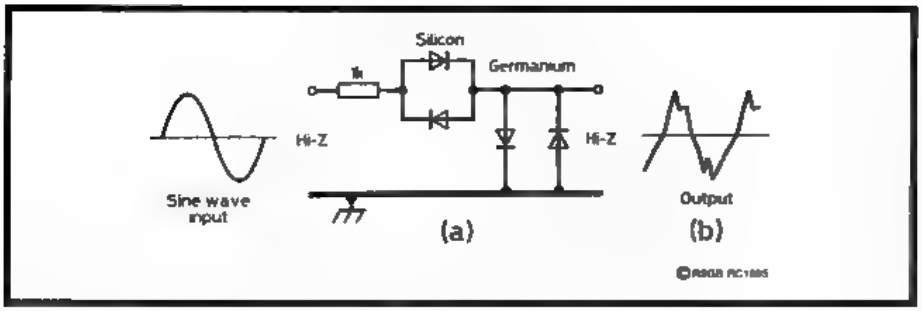

Fig 3 - Non linear threshold limiter to produce a more musical note.

easier to achieve as the low inductance can be achieved by paralleling a lot of 0.5 watt resistors and the stray capacity is less significant.

The output resistor R3 can be a standard carbon 0.5 watt resistor. A 47 or 51 ohm resistor should be suitable. The input SWR is 1.07:1 which is quite acceptable.

The low value resistor R2 can be made out of twenty 68 ohm 0.5 watt resistors, which results in a value of 3.4 ohms for R2. With this value the attenuation will be 30 dB if the power resistor R1 is exactly 50 ohms.

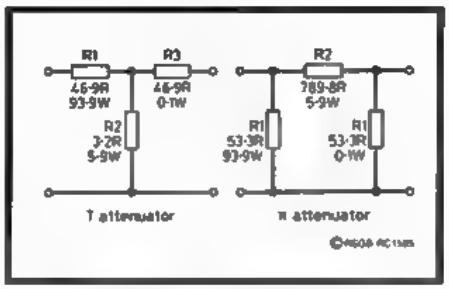

Fig 4 - 30 dB attenuator configurations.

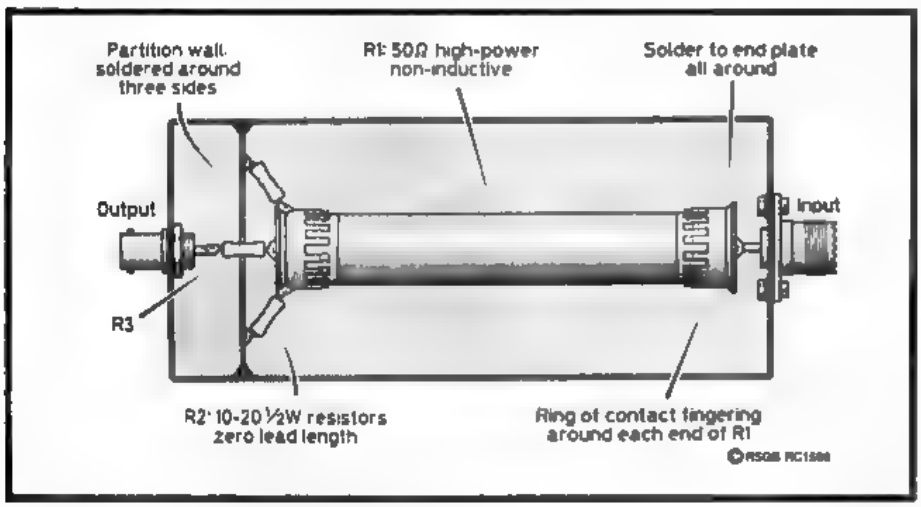

Fig 5 - Construction of 30 dB power attenuator.

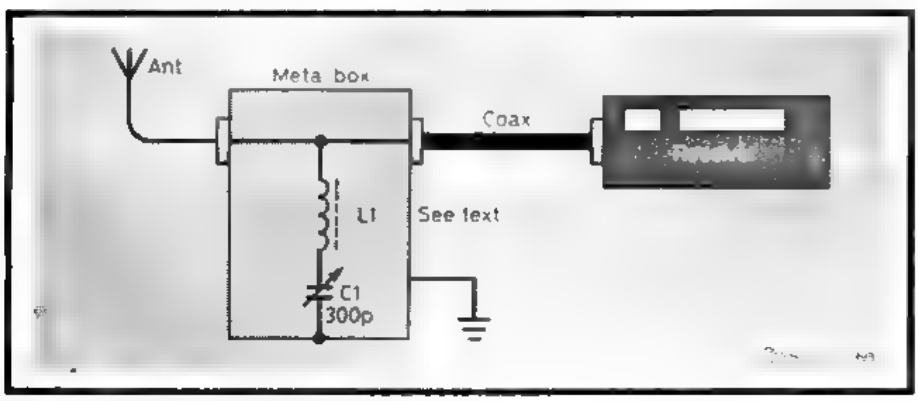

Fig 6 - Broadcast station wave trap.

The construction of the 30 dB power attenuator is shown in Fig 5. The partition between input and output is important. The resistors making up R2 should be soldered around the end of R1 to the separating partition. R1 should be held by finger stock. If you find this hard to obtain you could make your own out of Phosphor Bronze shim stock. In the UK, Phosphor Bronze shim is sold as weather strip for draught proofing doors. A trip around our hardware stores may bring a similar source to notice. If you are modifying an existing load, then the connections should not be a problem.

Broadcast Station Wave Trap

HF receivers can sometimes suffer from interference from a local broadcast station. In the *Down to Earth* column of Steve Ortmayer G4RAW in *RadCom*, March 1998, a simple wave trap was described. This should be a simple solution to the problem.

The wave trap is shown in Fig 6. The wave trap is built in a small diecast box using broadcast radio components. A coil wound on a ferrite rod is used. Around 80 turns of 30 SWG enamelled wire wound on a paper former around a transistor radio type ferrite rod should be suitable. You could avoid winding the coil by using a transistor radio aerial coil wound on a ferrite rod.

The tuning capacitor is a transistor radio component. Both the capacitor and the ferrite rod and coil are available from parts retailers such as DSE. Alternatively, you could salvage parts from defunct transistor radios.

The wave trap was built into a small diecast box and coaxial connectors were used for input and output.

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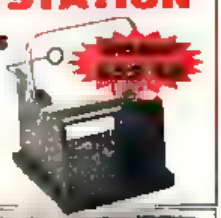

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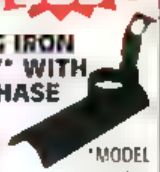

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Antennas

Random Radiators

Ron Cook VK3AFW and Ron Fisher VK3OM
C/o PO Box 2175, Caulfield Junction VIC 3161

Comparing Antennas

Many years ago an English radio club decided that they would put the annual field day contest to good use. Instead of just running up a high score, they decided to use their contacts to evaluate several common wire multi-band antennas and to write up the results in the RSGB magazine, *RadCom*. They called their article "Which Antenna". Now, this was way back in 1968 and so far I have yet to see another article to compare with this one.

Their antenna farm consisted of trap dipoles, one horizontal and one inverted 'V', a G5RV, standard dipoles and a trap semi-vertical. In summing up, they considered the trap semi-vertical to be the best all round antenna with the G5RV a long way down the list.

I will describe the trap semi-vertical later; it's a very simple but effective antenna. But first you might like to hear how the other antennas performed relative to the trap semi-vertical. Here are a few details from the original article looking at 80, 40 and 20 metre performance.

80 Metres

Firstly, 80 metres. *Without doubt the best all-round antenna was the reference dipole. This produced consistently better reports than any of the other antennas, except in the case of DX where, into ZL, the trap semi-vertical was the only antenna which enabled the stations worked to hear us. This was also borne out in receiving these stations. They could not be heard on any other antenna. The reports received on the trap semi-vertical were strength 6 to 7 so the difference was quite marked.*

On European (local) contacts the trap semi-vertical was 1 to 2 "S" points down on the dipole. The trap dipole proved to be only slightly down on the dipole. The reports received and given included just under half where no difference could be detected. The others varied between 1/2 and 2 "S" points down.

In the case of the G5RV, as with most of the other antennas, what could be worked or heard on the dipole could also be worked on the G5RV. However, the reports were consistently down 2 to 3 "S" points.

40 Metres

This band proved to be the most interesting, and the most difficult, in terms of evaluating the results.

Again, similar to 80 metres, the reference dipole did very well. The trap dipole proved to be more or less identical in performance to the dipole. There were some discrepancies, but 70% of the stations worked could detect no difference between the trap dipole and the reference dipole.

The antenna that came out best was the trap semi-vertical. Of the reports logged, 30% were the same as the dipole while the others were up by quite a bit. The Europeans (locals) were those giving comparable reports to the dipole while the DX contacts were well up. In the case of a W4 there was no copy at all on any other antenna. W3 and ZL stations were two "S" points up compared to the dipole.

The G5RV results were similar to those logged on 80 metres, about two to three "S" points compared to the reference dipole; however, on long haul DX, it was not so far behind being only one "S" point down on a contact to ZL.

20 Metres

Contacts on this band were mainly with Europe, with a couple of VKs thrown in for good measure.

The G5RV did not perform as well as expected on this band. The SWR was at its lowest on this band but reports were generally about two "S" points down compared to the dipole. However, in 12% of the logged reports the G5RV was the same or up by as much as two "S" points up compared to the dipole. The trap semi-vertical gave some interesting results with 50% of the reports being slightly down compared to the dipole, and the other 50% the same strength. One third of the trap dipole reports were down compared to the dipole with the remainder being slightly up or the same.

The largest discrepancies between the two antennas were from the nearest and furthest contacts. The signals were two "S" points below the dipole into VK5 and the same report was received from about 20 miles away.

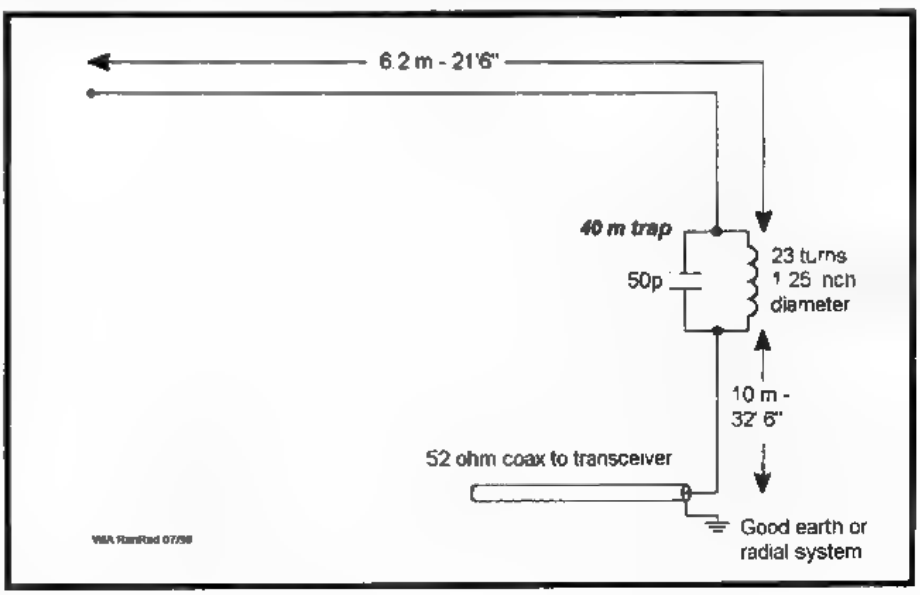

Fig 1 - The trap semi-vertical antenna.

Conclusions

Summing up the results was not easy. Probably the best all round antenna for multi-band operation turned out to be the trap semi-vertical, but a good earth is an absolute necessity.

The G5RV did not come out too well on these tests. It is, of course, a compromise antenna and it appears to be more of a compromise than the trap dipole. It was a puzzle on 20 metres, particularly after hearing so many good reports from other stations using them. The fact remains, however, that in direct comparison tests it was out-performed in most cases by other antennas.

Trap Semi-Vertical

Well, by now no doubt you are eager to hear all about the wondrous trap semi-vertical antenna.

First off it can be a very compact antenna. I guess the best way to describe it is to compare it with a commercial trap vertical antenna. There are two important differences. First, it works much better than the commercial antenna, and second, the cost is almost zero.

It works better because it's longer, but not necessarily in a vertical direction. This antenna is part vertical and part horizontal. The longer the vertical section, the shorter the horizontal section and vice versa. As the high current portion for each band is vertical the angle of radiation is low.

It is suggested that the vertical section be made up from a piece of aluminium tubing. You will need to insulate the base and guy the mast with nylon or similar insulating material. Don't run the vertical section up the side of a metal mast or tower!

The total length is about 54 feet (16.4 metres) for 80 to 10 metre operation and it is fed with 50 ohm coaxial cable. The centre conductor of the coax goes to the vertical radiator and the braid to the earth or radials.

With careful construction you should not need an antenna tuner for 80 and 40 metres but you might need a simple 'T' match tuner for 20, 15 and 10. An MFJ or Emtron unit would be fine or, of course, you can build your own.

One thing you will need is a good earth. If you ground mount the vertical section, two or three well spaced ground rods plus a few radial wires should suffice. If you mount the vertical on the roof, say with a TV mount on a chimney, then you will need three or four 10 metre radials draped over the roof.

By now you have probably realised that this antenna is, in fact, half a trap dipole antenna. The big advantage is that a fair section of the antenna is vertical which ensures a low angle of radiation.

Going back to the comparative tests you will note the superior performance on 40 metres. Now, one more suggestion. If you wind an 80 metre trap, put it at the end of the existing antenna, then add enough wire to resonate at 160 metres, you will cover most HF bands.

If you have limited space, this antenna is for you. If you have plenty of space and are looking for excellent performance, then this antenna is still for you. Give it a try, you won't be disappointed.

Perhaps we might even be able to enthuse one of those big scoring radio clubs to organise a few antenna tests during the next field day and, of course, write up the results for *Amateur Radio*.

And so, for now, its goodbye from me and goodbye from me.

The two Rons.

History

"Winnie the War Winner"

Reprinted from *SIGNALS - Story of the Australian Corps of Signals*

(Editor's note. This is one of the classic radio stories to emerge from World War II. It was first published in QST long before the war ended (August 1943, page 20) but the version reproduced here comes from a book published by the Australian Corps of Signals. Its hero, Max Loveless, was licensed pre-war as VK7ML and retained this callsign after the war. He died in 1971. We publish the story again, 56 years after the events described took place, to show to later generations how Amateur ingenuity overcame what seemed a hopeless situation.

Thanks to Mike Krochmal VK3KRO for sending this version to

In the dark days of 1942 when the tide of Japanese successes engulfed the islands of the Pacific practically down to the shores of Australia, very few people held out any hope for the troops who formed the garrison of Portuguese Timor. No word from them had reached the mainland for fifty nine days and yet during that time the tiny force of less than 400 men had been waging a ceaseless and successful war of their own against some 15,000 crack Japanese troops. They continued to do so for almost twelve months altogether.

When the Japanese landed at Dilli on the 19th of February, twenty men of the 2/2nd AIF Independent Company managed to blow up the airstrip and fight their way back into the hills to join the other units of the garrison in a bitter guerrilla war against the enemy despite the fact that contact with the mainland had been severed.

It was vital to re-establish communications with Australia and it was for this purpose that men of the Independent Company, the Fortress Signals section on the island and members of Signals 8 Aust Div pooled their resources to build a wireless set which would be capable of raising Darwin. They had to start from scratch without spare parts or new batteries. The sets they had were too weak; scrounging, the recovery of buried and damaged equipment and raids by fighting sections into enemy camps for materials all played part in the construction of the set which finally saw the light of day and served the Commandos well and faithfully under the name of "Winnie the War Winner".

The first plan was to build an oscillator with a stage of amplification to work on the frequency previously used in communication to Australia.

Without a receiver and with no instruments this was a tall order, but under Capt George Parker (Signals 8 Aust Div) four men - Cpl John Sargent and L/Cpl John Donovan (2/1st Fortress Signals Section) and Sigmn Max ("Joe") Loveless and K Richards (2/2nd Independent Company) - tackled the job. Loveless in civil life had been a technician with 7ZL Hobart.

He started by building a transmitter, using a crystal which by luck was close to the required frequency. Power supply became a problem and the couple of available accumulators were nearly flat. News was received of a charging plant in a nearby village and off went the accumulators under escort to be charged. This procedure occurred quite a few times until it was managed to make what naturally became known as a "boong" charger. This instrument of native torture consisted of a system of wheels, a belt driving a motorcar generator and, as the name implied, was turned by the natives. Their enthusiasm

A sketch from SIGNALS of the commandos at work constructing "Winnie"

for the job fluctuated and so consequently did the charging rate.

A broken-down 109 set was discovered and the transmitter was stripped for parts to provide an additional amplifier for the oscillator - more punch, stronger signals, better chance of being heard.

Three days after they had commenced to construct the new set, a Dutch sergeant stumbled into the camp with what he thought was a transmitter-receiver. It proved to be nothing more than the usual commercial medium-wave receiving set and out of order, too. The sergeant's effort in carrying this set over forty miles through some of the worst country in the world was not in vain for there were many good parts in it which could be used in the new set.

Loveless planned to build a transmitter, powerful enough to reach Darwin, from all the spare parts on hand. He planned the circuit and asked all the commandos to keep their eyes open for any parts that might be at all useful. Cpl Donovan went on a scrounging trip to Attamboa, on the north coast, and returned with the power pack from a Dutch transmitter, two aerial tuning condensers, some sixty feet of aerial wire and a receiving set.

The task of building "Winnie" went ahead without delay. Coils were wound on bamboo formers, accumulators were recharged, points were soldered and valve sockets were made. Just about everything had to be guess work in the absence of precision tools and instruments, even to the perusal of a Portuguese radio manual to determine the colour code of resistances and condensers. A battery charger was recovered from the enemy when fourteen Commandos went through the Japanese lines to the old Australian HQ at Villa Maria. Only a hundred yards from the Japanese they dug up a charger which had been buried there when the HQ had been forced to move.

The set was ready to go on the air by the 13th of April when the operator tried to raise Australia with "CQs" and "Xs" but no reply was heard Turning the dial of the receiver, the sounds of music floated into the small shack. Some troubadours were amusing the listening public with a song about "The Last of the Hill Billies". The transmitter was revised and on the 18th of April another attempt was made to contact the mainland. No reply was received but the disappointment of the men would have been allayed had they been aware that their signals had been picked up and passed on to Darwin. All Australian transmitting stations were warned to keep off the air and listen for Timor on the following night.

Some days prior to the 19th of April the HQ of "Sparrowforce" (as the Commandos were known) had given the operators a couple of encoded messages "just in case". On that fateful night, "Joe" Loveless tuned up the rig and everybody stood by listening to the chosen group. With suppressed excitement the "brass was pounded" and the highest priority put into the call. The operator was prepared to do this for a couple of hours but a hefty answering signal came back in reply. He

On the following night contact was established again but this time Darwin was suspicious . . .

was so nervous that he could not tap out the answer fast enough. Although he did not know it, all Australian stations on the group were ordered to stand by and after some hours the messages were passed. A tin of Australian tobacco which had been kept for such an occasion was opened in celebration and a toast in coffee was drunk to "Winnie".

On the following night contact was established again but this time Darwin was suspicious and demanded proof of the guerrillas' identity. Questions and answers were flashed across the Timor Sea:

"Do you know Jack Sargent?"

"Yes, he is here."

"What rank? Answer immediately."

"Corporal."

"Bring him to the transmitter."

"What is your wife's name, Jack?"

"Joan."

"What is your street! And house number?"

The correct answers were flashed back and the mainland accepted the fact that the Australians in Timor were still alive and fighting. Strengthened by the assurance that their homeland was making every effort to help them, the men in Timor fought on. They lived like natives, scrounged their food in the villages, outfought the Japanese and mocked the surrender notes with which the enemy regularly assailed them. The Japanese commander paid them a hard-won tribute when he said: "You, alone, do not surrender to us."

On the 26th of April, an Allied plane came over searching for the party but missed the smoke beacons. It returned just on dusk the following night and dropped parachutes with precious food and stores. Bush wireless took up the glad news and men who had been going barefooted to save their boots for more active work were issued with new pairs. It was then that all knew that "Winnie" had made good.

The mainland wasted no time in asking for bombing targets which were promptly and happily supplied. The men then enjoyed the sight of Allied bombers passing overhead on their way to give the Japanese a taste of their own medicine. A remarkable instance of co-ordination occurred when interference halted a message regarding bombing targets that was being passed one night to Darwin. When conditions improved at 7 o'clock the next morning, the message was completed. As the operator was receiving an acknowledgement from Darwin, our bombers were overhead on their way to the target. On another occasion, an enemy convoy of three ships was sighted and a message promptly despatched to the mainland. The RAAF sank all three and relieved an ugly situation.

"Sparrowforce" took fresh heart from such things. The men realised that they were no longer a lost unit but another link in the chain that was then being welded for the final overthrow of the enemy.

"Winnie the War Winner" did noble work and as a fitting climax to a useful career guided the rescue party that eventually took the guerrillas home from Timor.

This weird but wonderful set now resides in the Australian War Memorial where it occupies an honoured place as a relic of the ingenuity of signalmen in the face of odds and difficulties.

ar

QSLing

Russian/CIS Prefixes Are Not That Simple!

Ken Matchett VK3TL
Hon Curator of WIA National QSL Collection
4 Sunrise Hill Road
Montrose VIC 3765
Tel: 03 9728 5350

There was a time, not so long ago, when we could look at certain Russian/CIS prefixes and be left in no doubt of the DX country they represented. Not any more!

Of course, some have not undergone any change, such as our old friends UH/RH Turkestan, UI/RI Uzbek, UJ/RJ Tadzhik and so on. But even here, with the fairly recently introduced R prefix, we can face some problems of identification.

All UG prefixes (so far) are Armenian, but not all RG ones (RG4C is European Russia). Prefix UM indicates Kirghiz but not all RM prefixes (RM30 is European Russia and RM20 is Belarus). Even UY (Ukraine) can indicate European Russia (UY4L). The very common prefix UB (Ukraine) can indicate European Russia (UB6G), although RE still stands for Ukraine.

We always knew that some prefixes could indicate more than one DX country. The UK2, UK6 and UK8 series of prefixes each can represent at least four different countries. For example, UK8A = Uzbek, UK8B = Turkistan, UK8E = Turkoman and UK8J = Tadzhik, but now we must be wary of almost all prefixes and learn what a different letter after the numerical prefix could mean.

So many Russian/CIS prefixes are shared with different countries. Even U5 (Ukraine) is shared with Moldova (U5O). The very common UA1 (European Russia) is shared with Antarctica and Franz Josef Land. Prefixes UR1, UR2 and UR50 are Estonian, but other UR prefixes, including UR0, are Ukrainian.

Add to these difficulties the fact that the same letter/numeral prefix may indicate more than one country, and one wonders about the system being used in prefix allocation. Thus prefix EK3A can be both European Russia and also Belarus. Prefixes EM0C and EM3A can be both Asiatic Russia and Belarus. Prefix EX0A can be either Asiatic Russia or Kirghiz, and even 4K2A can be either Latvia or Lithuania. The list goes on and on.

How have these facts been ascertained? By first hand observation of QSL cards actually in the WIA QSL collection.

The National QSL Collection probably possesses the world's largest collection of prefixes. Special attention has been given to recording all the Russian/CIS prefixes composed of the initial letter (or letters) followed by each numeral and each following letter (frequently used as an Oblast indicator).

Approximately 2,100 different prefixes have been indexed in this way. The list is being added to as new prefixes come on the air. The rate at which this occurs has increased enormously since the years of independence (1989-1991) gained by the Republics of the former USSR. For this reason, the Collection welcomes modern QSL cards as well as those of historical importance.

If you are in a position to assist with a donation of QSLs this would be appreciated. It is hoped that when an even more complete picture emerges of the Russian/CIS prefix system, a list can be published which will be of considerable assistance to radio amateurs who have a particular interest in this aspect of amateur radio

ALARA

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Packet: VK4SHE@VK4RAT.#NQ.QLD.AUS.OC
E-mail: *rgrattid@ozemail.com.au*

VK YL Packet Net

Norma VK6PNS has started a new VK YL packet net. If you would like to join in send a message to VK6PNS@VK6JZA.#PER.#WA.AUS.COM

Several VK YLs have tried, with varying degrees of success, to join the USA YL packet net, and Norma decided it would be good to have something similar here. Packet netting involves sending bulletins, so you send one message which everybody reads, and you get to read all theirs. Personal messages can also be sent, of course, and it is a great way to swap news and meet YLs you may not otherwise hear about.

Welcome New Members

Joy Savill lives in Victoria and is studying for her licence. Don't give up Joy. Unni LA6RHA is sponsored by Gwen VK3DYL.

International Marconi Day

On 25 April, Dot VK2DDB took part in International Marconi Day running the 10 m VK2IMD station. She was worried about a dog-pile, but in the whole 24 hours had only 11 contacts; some of them had to be chased and invited/begged to come to her allotted frequency, 28.570 MHz, so that she could have a "proper" contact with them.

Dot was beginning to doubt the antenna system but then had a few DX contacts so decided it was conditions. This experience has rekindled her interest in working 10 m again which she used to love when she was a Novice; of course it was the peak of the sun-spot cycle then too. This was Dot's first time operating a Special Event Station.

Silent Key

Dot VK2DDB first met Daphne (ex VK2-KDX, VK2NXD) when they both sat for the Novice exam at North Sydney TAFE in 1978. Daphne was an avid DXer and, after a contact with Tom Christian on Pitcairn Island, sent her study material over there so his wife Betty could study for her radio licence. Betty is now VR6YL.

Before she took up radio herself, Daphne used to help her OM Nev VK2ZBQ (SK) as he tested and invented antenna systems. Daphne 'gave up' radio and all her clubs when she went blind with cataracts and moved to her son's house to live.

After her eyes had been operated on and she could see again, she didn't like to ask her son to erect antennas in his backyard, so just used a 2 m hand-held. Daphne had kept in contact with many of her DX friends until she went into palliative care at the beginning of the year. Sadly, she died in May.

Belgium Calling

Tiny ON4CAT tells us that the Belgian YL club will be activating the callsign ON50YLC from 1600 UTC on 20 July to 1600 UTC on 21 July on all bands from Broeders Van Liefdestraat, Eeklo (JO11SE). There is a special QSL card and a YL award. For more information send a packet to Tiny at ON4CAT@ON4KTK.WUL.BEL.EU

Many and Varied

When a YL is not holding a microphone or tapping a keyboard, she does all kinds of things. This is a list of activities, gleaned from nets and contacts, which appeared in the April *Newsletter*. Sewing - cross stitch, patchwork, teddy bears, dolls. Knitting, crochet, bobbin lace. Art - watercolours, folk art, oil painting. Woodwork, calligraphy, philately. Gardening, growing flowers and vegetables. Preserving fruit, making jam and pickles. Computers - programming, writing, Internet, satellite tracking. Photography including processing film. Reading, classical music. Sport - golf, lawn bowls, orienteering, canoeing, fishing. Exercise - walking, line dancing, belly dancing. Lapidary, rock hunting, metal detecting. Travel - visiting friends, 4WD clubs, caravans, yachts. Volunteering - committees, stalls, shops.

Some YLs even find time to go to work and raise children.

When YLs do get some time in the shack, you will find them on phone, CW, Packet, DX, ARDF and in contests.

And, of course, they do lunch.

Final

This is my last column as Publicity Officer. Next month Christine VK5CTY will take over, so please send her lots of news. The column has been a bit short on really

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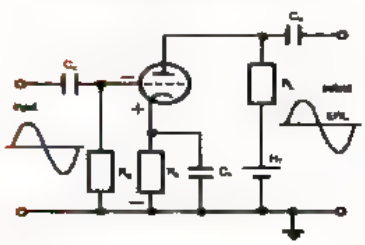


73 Silverdale Road, Eaglemont, Vic. 3084
phone: (03) 9499 8111
fax: (03) 9499 4044
email: silverdale100@hotmail.com

interesting stories on many occasions, because I can only write about it if I hear about it first.

If you come across anything concerning YLs and radio, spare the time to pass it on to your Publicity Officer. Here are some ideas to get you started.

You take part in a Special Event Station, Convention, Hamfest.

A DX friend sends a letter with news from her part of the world.

You have an interesting contact - not necessarily DX.

You visit a radio friend, or one visits you.

You run a JOTA station, give a talk to a group, school, club.

You are involved in some interesting activity (see list above).

You win an award, get married, give birth, retire, move house.

You go on a DXpedition, or just visit an interesting country.

You go to a YL meet, WICEN exercise (or the real thing).

In the shack, you test a new antenna or rig, build something electronic which actually works, get caught in a wild storm or a bush fire, blow up the computer, burn the toast.

I am sure you can think of lots more - tell us about it.

Many thanks to all those who did send news, and all the readers. ar

AWARDS

John Kelliher VK3DP
Federal Awards Officer
4 Brook Crescent, Box Hill South, VIC 3128
Tel/Fax [illegible]

I would like to congratulate the organisers of two nets which operate daily, providing much wanted DX contacts. Their operating procedures are most professional, and their controllers are cheerful and helpful. I refer to the ANZA net on 14164 kHz, and to the Down Under County Hunters' net on 14255 kHz which deals directly with those amateurs working for the USCA Award, a most prestigious award sponsored by *CQ Magazine*. It also provides ample opportunity to work US stations for the equally prestigious "Worked All States Award".

The Royal Flying Doctor Service

In an effort to help raise funds for the RFDS, for the past eight years the 28 Chapter (of 10-10) have offered to amateurs and SWLs "The Royal Flying Doctor Service" Award. Applications appear daily from Europe, but few come from VK.

This year marks the 70th anniversary of RFDS and, to mark the event, it had been hoped to have the callsign VI6RFDS. However, it was not to be! Instead, the Chapter has taken out a Club Station callsign which will add interest in the Award.

In future, local members of the 28 Chapter will be able to use the callsign VK6FDS, which will also be used for their regular nets on Sundays at 0210z and 0830z, both on 28560 kHz.

This information was sent to me by Dave VK6ATE.

The Royal Flying Doctor Service Award

This award seeks to recognise the great work being done by the RFDS, and to acknowledge the assistance given, especially in its formative years, by amateur radio operators. Today, many radio amateurs are involved in its operation.

For the Rev John Flynn, the establishment of the Service, in 1928, was the fulfilment of a dream to spread a "Mantle of Safety" over the people of the vast inland of Australia, combining the use of aviation, medicine and radio.

The Rev Flynn maintained that the effectiveness of the Service was 75% due to RADIO. Today, too, the people of the inland areas of our vast continent rely to a large extent on radio to communicate with each other; also the "School of the Air" helps bring education to the children of isolated areas.

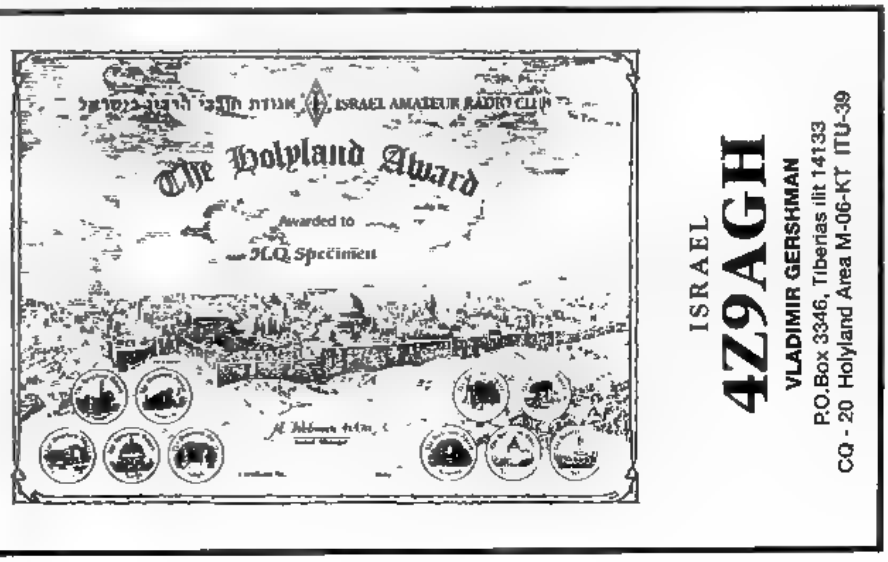
The "Twenty Eight" Chapter of 10-10 International offers this award to any radio amateur or SWL in the world.

Requirements

1. The award will be available annually, a new certificate being introduced each year.

2. Originally for contacts on the 10 m/28 MHz band, contacts can now take place on any band and any mode within the limitations of the particular licence holder.

3. Using as many letters as you wish from the prefix/suffix of station callsigns worked, heard from anywhere in the world, make up the words ROYAL FLYING DOCTOR SERVICE. Each callsign can be used only



ONCE each year but, of course, can be used in successive years.

If you work/hear a VK station whose operator works for, or relies on the RFDS for normal contact with the world, this can count as an "instant qualifier" for the award. All VK6 stations may be claimed as "instant qualifiers" for the award, no matter what band or mode.

4. List all contacts, including date, band and mode, station worked/heard, location, and letters used. SWLs list (and can use) both stations heard.

5. Cost of Certificates is $5.00 each ($AUS in VK, $US or equivalent for DX stations). Of this $AUS1, or enough for return air mail postage ONLY will be taken; the remainder will be sent to the RFDS on your behalf. If you wish to donate more to the RFDS, postage only will be taken.

For amounts of more than $5.00 a receipt will be issued ON REQUEST. Please mark your application accordingly.

6. Post applications to Certificate Manager-RFDS Award, Dave Hanscomb VK6ATE, PO Box 39, Quinn's Rocks WA 6030, Australia.

Germany - DLD Awards

The DLD Award is an official award of the German Amateur Radio Club (DARC) which is available to all licensed amateurs and SWLs. Names of new award holders will be published in the DARC magazine *CQ-DL*.

All members of DARC, and its associate club VFDB and club stations of both organisations, are issued a District Location Code (DOK). To qualify for DLD, applicants must submit QSL cards from licensed radio amateurs, showing a certain number of DOKs worked or, for SWLs, heard.

DLD Award Classes and Modes

1. DLD is issued separately for each amateur band.

2. DLD is issued in different classes on each band as follows: DLD100, DLD200, DLD300, DLD400, DLD500, (with lapel badge), DLD600, DLD700, DLD800, DLD900 and DLD1000 (with engraved badge of honour).

3 For SWLs the awards are known as DLD-SWL 100, DLD-SWL 200, etc up to DLD-SWL 1000

4 All DLD awards may be issued for mixed modes or may be endorsed for single mode operation providing this is supported by the necessary QSL cards.

Conditions of Issue

1 All modes permitted by the applicant's licence may be used.

2. The initial award is for 100 different DOKs on a single band. For each further 100 DOKs on the same band, the applicant may apply for the next class of DLD. Applicants may skip levels such as going from 100 to 400.

3. A DOK will only count if the station worked/heard is located in the Republic of Germany at time of contact. Stations only have one DOK and give out only the number they have registered with the DARC QSL Bureau. Special event DOKs will be published in *CQ-DL* Magazine.

Applications for DLD

All valid DOKs are listed in the official DOK List which may be obtained from the sponsor and is used as the application form. A computer generated list will be accepted providing it uses the same format as the application form issued by DARC. It is recommended that you use a separate list for each band. The DOK List costs DM5 or five IRCs plus a self addressed label. Applications must be verified by the applicant's local club or official Awards Manager. Ask for the fee schedule from the sponsor when you request your DOK List. Apply to DARC DLD-Diplome, Postfach 11 55, D-34225 Baunatal, Germany.

Israel - The Holyland Award

Contact at least 100 areas from 13 regions in Israel since 1 January 1992. The country is divided into a series of grids resulting in squares of 10 x 10 km. In addition, the country is divided into 23 administrative regions. The areas that count for the award are a combination of the grid designations followed by the region abbreviation, eg E-14TA (Grid E-14, Tel Aviv). Endorsements are for each additional 12 areas plus one extra region.

A special record book and maps, plus reference material, are available from M Webman 4X4JU, PO Box 8181, 49651 Petah Tiqua, Israel.

The book costs $US10 and the book plus county road maps is $US18.

There are three categories for the award depending upon your location.

A : Stations operating in the Holyland.

B : IARU Region 1.

C : IARU Regions 2 and 3.

Basic Award

Category C - work 50 areas in 13 regions. SWL hear 100 areas in 13 regions.

Endorsement Stickers

Six areas worked/heard plus one additional region per sticker.

An annual contest is held in mid-April of each year. Mobile and portables will activate 7060, 14265, 21320 and 28655 kHz. GCR only. The plaque is a gold anodised aluminium sheet 44 x 32 cm, with two colours showing a panorama of Jerusalem from the Mount of Olives. The fee for the plaque is $US20 and endorsement seals are $US1.00 each. Apply to Israel ARC, PO Box 17600, Tel Aviv 61176, Israel. **ar**

Contests

Ian Godsil VK3DID
Federal Contests Co-ordinator
25 Monaco Street, Mentone VIC 3194
E-mail *vk3did@hotmail.com*

Just prior to submitting these notes I had the pleasure of meeting my predecessor, Peter VK3APN. More than ever I realise what a large task he did and did so well! Again our sincere thanks to you Peter. I shall do my best to keep up the standard. Please contact me if I can help. 73 and good contesting.
Ian VK3DID

SEANET '98 WW DX Contest

CW: 0001z 18 July - 2359z 19 July
Phone: 0001z 22 Aug - 2359z 23 Aug

All bands except WARC. Categories are: single operator - single band; single operator - multi-band; multi-operator - multi-band. On CW call "CQ SEA"; on Phone call "CQ SEATEST". For each band exchange RS(T) plus serial number starting at 001 and incrementing by one for each QSO. Contact each station only once per band.

Outside SEANET area stations contact SEANET area only. SEANET area stations will contact all call areas. Contacts between OUTSIDE SEANET AREA stations will not be counted. SEANET area is A4/5/6/7/9, AP, BV, BY/BZ, DU, EP, HL, HS/E21, all JA call areas, JD1, JY, KH2, P29, S21, S79, VK, VQ9, VR2, VU, V85, XU, XV/3W, XW, XX9, YB/YC/YD/YE, ZK, ZL/ZM, 3B6/7/8/9, 4S7, 4X/4Z, 8Q7, 9K2, 9M2/6/8, 9N1, and 9V1.

Score one point for each QSO. Multiplier is three points for each country worked. Final score is total QSO points times multipliers.

Signed logs must show claimed scores band by band, plus total score. Send to SEANET Contest Manager, Eshee Razak 9M2FK, PO Box 13, 10700 Penang, Malaysia.

Southside Amateur Radio Society 1998 Sprints

25 July, Sat 0000z - 0020z 10/15 m, 1000z - 1200z 80 m (Phone)
1 Aug, Sat 0000z - 0020z 10/15 m, 1000z -1200z 80 m (CW)

The South Side Amateur Radio Society is pleased to announce its first contest for 1998. This is a Sprint, with the SSB section on Saturday, 25 July, and the CW section on Saturday, 1 August. These dates have been chosen to coincide with the New Zealand Waitakere Sprint on 80 m.

The objective is to make as many contacts between VK, ZL and P2 stations as possible, with additional incentives for working Novice stations.

Categories are: single operator; multi-operator and SWL. Use 10, 15 and 80 m only. To utilise better propagation, the operating time for 10 and 15 m is 0000-0200z, and for 80 m is 1000-1200z.

Each session consists of two one-hour blocks. Stations can be worked once per block providing that such contacts are not consecutive, or unless five minutes have elapsed since the previous contact with that station.

Exchange RS(T) and serial number starting at 001. To assist identification, club stations must follow their serial number with "Club" or "C" ("Club" includes multi-operator). Portable and mobile stations must identify in the usual manner as /P or /M.

For each completed contact with a non-Novice, score three points on 10 m, two points on 15 m, and one point on 80 m. For contacts with Novice stations, multiply the above points by two.

The multiplier for each band is the total number of VK, ZL and P2 call areas worked (P2 is one call area), plus club, mobile and portable stations. Final score is total points times multipliers from each band.

Transmitting logs must show the date, time (UTC), band, callsign, numbers sent and received, points, and multiplier/s. SWL logs should show the callsign of the station heard, the callsign of the station worked, and serial numbers sent and received. Separate logs are required for each section.

Attach a summary sheet to each log showing mode, callsign, name, address, type of station (club, mobile, portable, Novice, etc), scoring calculations, and a signed declaration that the rules and spirit of the contest were observed.

Club/multi-operator entries should list all operators. Send your logs to SARS Contest Manager, PO Box 294, Woodridge QLD 4114, Australia to arrive by the last mail on Monday, 31 August 1998. Alternatively, logs (in ASCII format) can be sent by packet to VK4WSS@VK4PKT.#BNE.QLD.AUS.OC. Logs received by packet will be acknowledged.

Certificates will be awarded to the three highest scores; leading club station; leading mobile/portable station; leading Novice, leading SWL. Special certificates will be awarded to the VK and ZL with the highest total score for CW and Phone combined

Contest Calendar July - September 1998

Jul 1	Canada Day (CW/Phone)	(June 98)
Jul 4	Australasian Sprint (CW)	(June 98)
Jul 4	Jack Files Memorial Contest (CW)	(June 98)
Jul 4	NZART Memorial Contest (Phone/CW)	(June 98)
Jul 11	Australasian Sprint (Phone)	(June 98)
Jul 11	Jack Files Memorial Contest (Phone)	(June 98)
Jul 11/12	IARU HF Championship	(June 98)
Jul 18	South Pacific 160 m Contest	(June 98)
Jul 18	Colombian DX Contest (CW/Phone)	(June 98)
Jul 18/19	SEANET 98 (CW)	
Jul 24	80 m 'Zip' Contest (Phone)	(June 98)
Jul 26	Waitakere 80 m Phone Sprint	(June 98)
Jul 25	SARS Sprint (Phone)	
Jul 25/26	RSGB IOTA Contest	(June 98)
Jul 31	80 m 'Zip' Contest (CW)	(June 98)
Aug 1	SARS Sprint (CW)	
Aug 1	Waitakere 80 m CW Sprint	(June 98)
Aug 1/2	YO DX Contest	
Aug 8/9	Worked All Europe (CW)	
Aug 15/16	Remembrance Day Contest	
Aug 15/16	Keyman's Club of Japan (CW)	
Aug 22/23	SEANET '98 (Phone)	
Sep 5/6	All Asia DX Contest (Phone)	
Sep 5/6	Bulgarian DX Contest	
Sep 12/13	Worked All Europe (Phone)	
Sep 19/20	SAC DX CW	
Sep 26/27	SAC DX Phone	
Sep 26/27	CQ WW RTTY DX Contest	

Worked All Europe DX Contest

8/9 Aug (CW), 12/13 Sep (SSB), 7/8 Nov (RTTY),0000z Sat - 2400z Sun

The object is to work European stations (except in the RTTY section where anyone works anyone). Bands are 80 - 10 m. In the contest, avoid 3550-3800 and 14060-14350 kHz on CW, and 3650-3700, 14100-14125 and 14300-14350 kHz on SSB. The minimum time of operation on a band is 15 minutes, although bands may be changed within this period if, and only if, the station worked is a new multiplier.

Categories are single operator all bands; multi-operator single transmitter; and SWL all bands. DX cluster support is allowed. A maximum of 36 hours is allowed for single operator stations, with up to three rest periods (mark them in the log).

Exchange RS(T) plus serial number. Additional points can be gained reporting QTCs as follows: after working a number of European stations, details of those QSOs (ie QTCs) can be reported during a current QSO with a European station. In the CW and Phone sections, QTCs are sent from non-European stations to European stations. In the RTTY section, QTCs can be sent to any station, including non-Europeans, outside one's own WAC continent. A QTC contains the time, callsign and QSO number of the station being reported, eg "1307/DA1AA/431" means you worked DA1AA at 1307z and received serial number 431. Commence QTC traffic by sending the QTC series and number of QSOs to be reported, eg "QTC 3/7" indicates that this is the third series and that seven QSOs will be reported. A QSO may be reported only once and not back to the onginating station, who can be worked more than once to complete the quota. Only the original QSO, however, will have points value.

The multiplier on each band equals the number of European countries worked on that band (or on RTTY only, the number of DXCC/WAE countries), times a band factor. The band factors are four for 80 m, three for 40 m and two for 20/15/10 m. Add the band multipliers together and multiply by the sum of (QSOs + QTCs) to obtain the final score.

SWLs may log each station heard, European and non-European, once per band. Logs must contain both callsigns and at least one of the control numbers. Count one point for each station logged and one point for each complete QTC received (max 10 per station). It is possible to claim up to two multipliers per logged QSO.

Use standard log summary sheet format. Include a check list for more than 100 QSOs on any band and, if more than 100 QTCs have been sent, include another check list to show that the quota of 10 QTCs per station is not exceeded. Logs can be submitted in ASCII on DOS disc, providing a paper summary is included. Send logs to: WAEDC Contest Committee, Box 1126, D-74370 Sersheim, Germany. Deadlines are 14 Sept (CW), 14 Oct (SSB) and 14 Dec (RTTY).

European countries are: C3 CT1 CU DL EA EA6 EI EM/N/O ER ES EU/V/W/ F G GD GI GJ GM GM(Shetland) GU GW HA HB HB0 HV I S IT JW (Bear) JW (Spitzbergen) JX LA LX LY LZ OE OH OH0 OJ0 OK/L OM ON OY OZ PA R1/FJL R1/MVI R/U (RUSSIA) RA2 S5 SM SP SV SV5 (Rhodes) SV9 (Crete) SV (Mt Athos) T7 T9 TA1 TF TK UR-UZ (Ukraine) YL YO YU Z3 ZA ZB2 1A0 3A 4U (Geneva) 4U (Vienna) 9A 9H.

Keyman's Club of Japan (CW)

15/16 August, 1200z Sat - 1200z Sun

This contest is designed for CW enthusiasts and will particularly suit those who are collecting Japanese prefectures for awards.

The name of the winning Division each year is also inscribed on the trophy...

The only category is single operator multi-band. Suggested frequencies are: 1908-1912 (split), 3510-3525, 7010-7030, 14050-14090, 21050-21090 and 28050-28090 kHz. Exchange RST plus continent code (OC). JAs will send RST plus district code.

Score one point per QSO. The multiplier on each band is the total number of JA districts (max 62 per band). Final score equals total points x total multiplier. Show duplicate QSOs with zero points. Attach a summary sheet showing all the usual information and send the log to: Yasuo Taneda JA1DD, 279-233 Mori, Sambu Town, Sambu, Chiba 289-12, Japan, postmarked no later than 16 September 1998. ASCII logs on DOS disc most welcome.

1998 Remembrance Day Contest

15/16 August 0800z Sat - 0759z Sun

Presented by Alek Petkovic VK6APK

Purpose: This contest commemorates the amateurs who died during WWII and is designed to encourage friendly participation and help improve the operating skills of participants. It is held annually on the weekend where the Saturday is closest to 15 August, the date when hostilities ceased in the south-west Pacific area.

It is preceded by a short opening address by a notable personality transmitted on various WIA frequencies during the 15 minutes immediately before the contest. During this ceremony, a roll call of amateurs who paid the supreme sacrifice is read.

A perpetual trophy is awarded annually to the WIA Division with the best performance. It is inscribed with the names of those amateurs who made the supreme sacrifice, to perpetuate their memory throughout amateur radio in Australia.

The name of the winning Division each year is also inscribed on the trophy, which is presented at the Annual Federal Convention. The winning Division holds the trophy for the following 12 months and receives a certificate. The leading entrants will also receive a certificate.

Objective: Amateurs in each VK call area will endeavour to contact other amateurs in other VK call areas, P2 and ZL, on 1.8 - 30 MHz (10, 18 and 24 MHz excluded). On 50 MHz and above, amateurs may also contact other amateurs in their own call area.

Contest Period: 0800z Saturday, 15 August to 0759z Sunday, 16 August 1998. As a mark of respect, stations are asked to observe 15 minutes silence prior to the start of the contest, during which the opening ceremony will be broadcast.

Rules:

1. The contest categories are:

(a) High Frequency (HF) - for operation on bands below 50 MHz;

(b) Very High Frequency (VHF) - for operation on the 50 MHz band and above.

2. Within each category the applicable sections are:

(a) Transmitting Phone (AM, FM, SSB, TV);

(b) Transmitting CW (CW, RTTY, AMTOR, PACTOR, packet, etc);

(c) Transmitting Open (a) and (b);

(d) Receiving (a), (b) or (c).

3. All amateurs in Australia, Papua New Guinea and New Zealand may enter the contest, whether their stations are fixed, portable or mobile.

4. Cross-mode and cross-band contacts are not permitted.

5. Call "CQ RD", "CQ CONTEST", or "CQ TEST".

6. On bands up to 30 MHz, stations may be contacted once per band using each mode, ie up to twice per band using CW and Phone.

7. On the 50 MHz band and above, the same station in any call area may be worked using any of the modes listed at intervals of not less than two hours since the previous contact on that band and mode.

8. Both single and multi-operator entries are permitted. To be eligible as a single operator, one person must perform all operating and logging activities, without assistance, using his or her own callsign. More

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The new VX-1R is one of the world's smallest dualband amateur rigs, sporting a 2m/70cm transceiver with wideband receiver in a case sized just 81 x 47 x 25mm WHD. It has impressive memory and scanning facilities as well as receive coverage of VHF and UHF TV AM and FM broadcast bands, AM aircraft band and other public service frequencies from 76 to 999 MHz*

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The VX-1R's extensive memory system provides 291 memory channels, most with Alpha-numeric labelling for easy recognition. A Smart Search™ system allows you to search a portion of a band you define, then loads any active frequencies into 31 special Smart Search™ memories for later inspection (great for finding activity when visiting a new area).

Besides being a fully-featured dual-band amateur transceiver, the VX-1R has extraordinary wide receiver frequency coverage: you'll also be pleasantly surprised by the great audio on the FM broadcast band. A dual-watch facility is provided - and together with the AM, FM-narrow and FM-wide reception modes - you'll be having fun even when you're not operating on the amateur bands. For selective calling and listening, the VX-1R also includes a CTCSS encoder/decoder and a 104-code Digital Code Squelch (DCS) system as well as a Tone Search facility for both CTCSS and DCS encoded transmissions.

A great range of accessory lines for the VX-1R are available such as speaker/mics, a carry case, as well as a battery holder for 1 x AA alkaline battery which includes an inbuilt voltage step-up converter. Computer programming of the VX-1R is available via the optional ADMS-1D programming kit.

So when Yaesu says "Dick Tracy, we're waiting for your call" you can be sure they have good reason to do so. In fact, call into your Dick Smith Electronics' Hams Shack store for a demo of this fun new rig. Or phone 1300 366 644 for a copy of the Yaesu colour brochure.

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than one person can use the same station and remain a single operator, providing that each uses his or her own callsign, submits a separate log under that callsign, and does not receive operating or logging assistance from anyone else during the contest.

9. Multi-operator (club) stations may be operated by any number of people, but only one person may operate at any one time, ie no multi-transmission.

10. For a contact to be valid, numbers must be exchanged between the stations making the contact. The number will comprise RS(T), followed by three figures commencing at 001 for the first contact, and incrementing by one for each successive contact.

11. Contacts via repeater (including satellite) are not permitted for scoring purposes. Contacts may be arranged through a repeater. The practice of operating on repeater frequencies in simplex is not permitted.

12. On all bands except 160 m, score one point per completed contact, and on 160 m score two points per completed valid contact. On CW, score double points.

13. Logs should be in the format shown below, and accompanied by a summary sheet showing the following information:

Callsign:
Name: Address:
Category (HF or VHF):
Section (Phone, CW, Open or Receiving):
For multi-operator stations, a list of the operators:
Total Score:
Declaration: *" I hereby certify that I have operated in accordance with the rules and spirit of the contest."*
Signed: Date:

14. Entrants operating on both HF and VHF are requested to submit separate logs and summary sheets for both HF and VHF.

15. VK entrants temporarily operating outside their allocated call area, including those outside continental Australia as defined for DXCC, can elect to have their points credited to their home Division by making a statement to that effect on their summary sheet/s.

16. Forward log/s and summary sheet/s to: RD Contest Co-ordinator, A Petkovic VK6APK, 26 Freeman Way, Marmion WA 6020. Endorse the envelope "Remembrance Day Contest" on the front outside. Entries MUST be forwarded in time to reach the Contest Co-ordinator by Friday, 18 September 1998.

17. Certificates will be awarded to the leading entrants in each section, both single and multi-operator, in each Division, P2, and ZL. Entrants must make at least 10 contacts to be eligible for awards, unless otherwise decided by the Contest Co-ordinator

18. Any station observed as departing from the generally accepted codes of operating ethics may be disqualified.

Determination of Winning Division:
Unless otherwise elected by the entrant concerned, the scores of VK0 stations will be credited to VK7, and the scores of VK9 stations will be credited to the mainland VK call area which is geographically closest. The scores of P2, ZL and SWL stations will not be included in these calculations.

For each Division, an "improvement factor" will be calculated as follows:

(a) For transmitting logs only, HF and VHF "benchmarks" for each Division will be established, against which its performance for the current year is judged. The same formula will be used for HF and VHF, inserting the HF or VHF figures as appropriate:

B = 0.25P + 0.75L

where B = this year's benchmark, P = last year's total points, and L = last year's bench mark.

(b) For each Division, HF and VHF Improvement Factors will then be calculated. Once again, the same formula will be used for HF and VHF, inserting the HF or VHF figures as appropriate:

I/F = Total points (this year)/Benchmark

where I/F = improvement factor.

(c) For each Division, the HF and VHF Improvement Factors will then be averaged:

Overall I/F = (HF I/F + VHF I/F)/2.

(d) The Division which achieves the highest overall Improvement Factor will be declared the winner.

1997 Benchmarks

These are the total scores which must be obtained by each Division to improve on its results for the previous year:

Div	HF	VHF
VK1	813	260
VK2	4347	74
VK3	4413	11695
VK4	3283	1181
VK5/8	3746	1352
VK6	2959	7078
VK7	1927	190

Receiving Section Rules

1. This section is open to all SWLs in Australia, Papua New Guinea and New Zealand. No active transmitting station may enter this section .

2. Rules are the same as for the Transmitting Section, as applicable.

3. Only completed contacts may be logged, ie it is not permissible to log a station calling CQ. The details shown in the example must be recorded.

4. The log should be in the format shown below.

Example Summary Sheet
Remembrance Day Contest 1998
Callsign: VK1XXX
Name: Joe E Brown
Address: PO Box 123, Farm Orchard, ACT, 2611
Category: HF
Section: Transmitting Phone
Total Score. 515
Declaration: *I hereby certify that I have operated in accordance with the rules and spirit of the contest.*
Signed J E Brown
Date: 23 August 1998

Example Transmitting Log
Remembrance Day Contest 1998
Callsign: VK1XXX
Category: HF
Section. Transmitting Phone

Time (UTC)	Band	Mode	Call	Nr Sent	Nr Rcvd	Pts
0801	14	SSB	VK2QQ	58001	59002	1
0802	14	SSB	VK6LL	59002	59001	1
0806	14	SSB	VK5ANW	59003	59001	1
0808	14	SSB	ZL2AGQ	56004	57004	1
0811	14	SSB	VK4XX	59005	59008	1

Example Receiving Log
Name/SWL Nr: L33071
Category: HF
Section: Receiving Phone

Time (UTC)	Band (MHz)	Mode	Calling	Called	Nr	Nr	Pts
0801	14	SSB	VK1XXX	VK2QQ	58001	59002	1
0802	14	SSB	VK1XXX	VK6LL	59002	59001	1
0805	14	SSB	VK5ANW	VK1XXX	58011	59003	1
0807	14	SSB	ZL2ZGQ	VK1XXX	57004	56004	1
0809	14	SSB	VK7AL	VK2PS	59007	58010	1

WIA Novice Contest

0800z Sat to 0800z Sun, 20/21 June

Further to the details in *Amateur Radio* for May 1998, I am pleased to advise that the new Manager for this annual contest is Dave Myers VK2RD, 61 Fern Street, Arcadia Vale NSW 2283. Please send logs to him after the event.

Results 1998 RTTY WPX

Presented by W6/G0AZT

Multi-op Single Tx

(Call\QSOs\Points WPX \Score\Award)

VK6GOM (ops VK6GOM, VK6HAJ)
364 1153 198 228294 O C
Plaque
VK5AI 100 315 78 24570 C
VK5GN 68 203 59 11977
Check Log VK3EBP

Results 1997 SPDX

(Category/QSOs/points/multiplier/score)

VK3CRP MOMB 23 69 16 1104
VK2EKY SOMBCW 56 168 33 5544
VK8AV SOMBCW 55 165 26 4290
VK4TT SO14CW 30 90 20 1800
VK4FW SO14SSB 66 198 33 6534

Thanks this month to VK2VV, VK3BR, VK3APN, VK5OV, VK6APK, W4RA, W6, G0AZT, 9V1UV, IARU, RSGB. **ar**

ARDF
Amateur Radio Direction Finding

Ron Graham VK4BRG
PO Box 323, Sarina QLD 4737
Packet: VK4BRG@VK4BRG.#CQ.QLD.AUS.OC
E-mail *rongraham@magnet.com.au*

ARDF World Championships

The newly formed ARDF USA will have a team competing at the ARDF World Championship which is being held in Hungary from 1 to 6 September 1998.

ARDF in VK

In a recent *Amateur Radio*, I noted the resignation of Wally VK4DO as Federal ARDF Co-ordinator. Wally was, in my opinion, quite suited and qualified to carry out these duties. It is hoped that the WIA can appoint someone to replace Wally as soon as possible. I feel that ARDF in this country will, to a large extent, stagnate until this appointment is made.

Interest in ARDF/Fox Hunting!

There has been some recent useful discussion on the US fox-list Internet reflector regarding various suggestions and experiences that have proven beneficial in getting people interested in, and maintaining that interest, in fox hunting in the US.

The server may be subscribed to at *listserv@majordomo.netcom.com* with "subscribe fox-list" in the body of the message. Some extracts from that server follow:

We also have a fox-box hidden transmitter which is put out weekly and can be hunted 24 hrs a day. We have 6-10 individuals who hunt regularly as work and other activities allow

The following tips are offered.

Hunt regularly and often. If folks get fatigued, you can cut back, but keep something going regularly - waiting several months for the next hunt would drive me batty!

Couple the hunting to other activities - eating out at an affordable restaurant and/or a repeater site work party after the hunt are standard activities.

Make sure to help beginners - different folks need different amounts of time to become competent - help them out - tell stories about how even the accomplished hunters were "rookies".

Share new toys and experiences - in the last few years, our group activities have been places to swap stories and info on new equipment such as GPS, mapping software, etc - also experiment with affordable "low end stuff", attenuators, home-brew quads, etc. We also travel to local clubs and tell our tales and give equipment demos.

Throw in a different style of hunt occasionally - as a group or set of teams to an "out of town" hunt, have a mobile fox and track him/her down "on the fly", hunt at night (safety of course is especially important for the latter two activities).

Have simple rules - one of ours is that we have no rules! Actually we do but they are simple and only effect what the fox can or cannot do - limiting radius from start or repeater site - regularity of transmissions, power limitations, public access (no posted land or access fees/toll roads).

Try to be competitive with yourself and not so much with others, unless of course the hunt is billed as a competitive event - in our case we share enough info to get everyone into the local area where there is enough signal to allow the fox to be found by anyone with a simple receiver and no special equipment.

Take pictures and post them on the club Website.

We also hold our hunts on one of the MMRA repeaters - that way listeners and scanner buffs can hear not only the fox but also much of the chatter of the hunters - we have found over the years that we have quite a few individuals who participate as "fans" - many have become active in our club and hunting group.

Talk up the hunts - we announce them along with other club activities on our weekly MMRA Technical Information and Other Stuff Net - one of the highlights being N1NOM's "Fox Report".

David KT1X dhcroll@kt1x.ultranet.com

Acknowledgement to David. His e-mail address is included in case a reader wishes to contact him for more information.

From Another Contributor

We had a hunt, a no-holds-barred hunt, that started with a puzzle. To be eligible for the hunt, the team had to solve the puzzle. Upon entry, they were issued with a 6 oz paper cup with sticky tape to attach to the hood of their vehicle. It was filled with exactly 4 oz of blue water. The winner of the first leg (to the first transmitter) was determined by who had the most water left in the cup.

You had one hour to go 13 miles, requiring freeway travel. The winner had less than 1 oz. The hunt continued, more or less like a scavenger hunt for the next four transmitters. The last transmitter ended up in a park with a fine barbecue dinner.

Also we held Sunday afternoon hunts on a repeater input. The transmitter, under manual control, would stand by for emergency traffic, and some normal repeater traffic could go on with an occasional break by the hidden transmitter, but the main point was that the stay-at-homes could communicate with the hunters and help with beam bearings and map readings. It was a community affair The winning was shared between the first-in hunter and the best home beam bearing. Since you could start anywhere, the same person could and did win both titles. Note that this also trained the home beam readers to a very sharp accuracy which would immediately pinpoint any interference on the repeater.

Dale Hunt Wrote

Some possible reasons for lack of response:

1. *Inertia.*
2. *Afraid they won't be good at it.*
3. *They don't know how.*
4. *They don't have the specialised equipment.*
5. *They don't know how much fun it is.*

The best way I've found to overcome this is to put on a hunt during another ham event. A summer picnic in the park is a great opportunity. Here is what worked for us.

First, use a low power transmitter. Something around 10 to 20 mW can be heard for a couple of hundred metres, but won't overload a hand-held when body shielding, even at three metres. Put it (with legal IDer, of course) in a suitable container to make it reasonably foolproof. I used an old paint can, with a rubber duckie on the lid (if you put the duckie off-centre, you can hold the can by the handle). An On/Off switch on the outside is helpful, but not mandatory.

Now you have a transmitter that anyone can go place in the park, and which is reasonably easy to hunt using body shielding. Get a few people to look for it - don't worry about making a fool of yourself. And have some kids try it; you don't need a license, after all. And don't limit yourself to just one hunt - whoever gets there first gets to hide it next. This way everyone gets a chance to give it a try.

The best recruitment moment for most people is when they find their first transmitter. "Oh! I can do it!" So make it easy, and give them plenty of opportunities. We often had between 10 and 20 hunts in an afternoon, including participation by kids from an adjacent picnic

If you are trying to get a mobile hunt going, the first problem is lack of equipment. Without a good attenuator, it can get very frustrating. Joe Moell just published a simple attenuator design in his column in 73 Magazine, and I have a similar design (the "Ultimate Attenuator") which has enabled a lot of folks to get started with little investment. I have

done club projects for four clubs, with around 100 built so far. The companion antenna doesn't have to be fancy, either. I use a two element quad made from PVC pipe and wire. Total cost is around $2 or so, and you can transmit through it for portable operation as well.

The best way for most folks to start is to ride along with someone else who is more experienced. This brings us to the "chicken and egg" problem of how do you bootstrap participation. Get three or four people willing to put together the minimum equipment and do it. Talk about all the fun you are having on the repeater. Write hunt reports for the club newsletters. Invite likely prospects to ride along with you. Build extra equipment to loan out. As Nike used to say, "Just Do It."

Once you get started, probably the easiest way to kill interest is to make the hunts too difficult. Sure, you will hear stories about the transmitter encased in cement in the retaining wall in the freeway divider, and other classic hiding places, but that is NOT appropriate for beginners. Reflections, unfamiliarity with the equipment, putting the antenna on backwards, there are enough problems to make even the simplest hunt challenging when you are getting started.

And, do it often. Once a month barely keeps the interest up if a hunter has had a couple of bad hunts. We used to do a "leapfrog" hunt; the first hunter to find the transmitter went and hid, and when all the hunters got there, they went looking for the next one. You can have four hunts in an evening without being out very late, and everyone gets a chance to find it several times (make sure you congratulate folks on finding it, even if they were not the first ones there!).

Dale WB6BYU e-mail kuon@onlinemac.com

Now from Dave VE1BIP

We had the same situation in our club. There was some interest but no action. It took almost a year of trying but we finally have a core group of five or six teams who hunt weekly. Here are some of things we did/do to get a group started.

1. Hold the hunts frequently. We hunt every Sunday afternoon (Thursday nights in the summer). Hunts usually last an hour and the fox is within about a 10 mile radius. We found people lose interest if the hunts are a month or two apart. We have had hunts with one fox and two hunters. The main thing is to keep it going.

2. One of the things that hindered people at the beginning was the inability to reliably locate the fox. It took a while to figure out what equipment works reliably. For us it was a simple two element quad and an attenuator with a total of 90 dB of attenuation. For a while everybody used the same configuration but now hunters are beginning to experiment with different types of gear. We also have a spare set of equipment that can be borrowed by newcomers. This means they can try out fox hunting for zero investment.

3. Another difficulty we have found is having to sniff out the fox. Make the first several hunts simple by making the fox easy to spot from say 50 to 100 feet or more. As the hunters become more proficient you can conceal the fox more cleverly. Remember, there is nothing like success to encourage people to return.

4. Many of us include other family members to make it more of a family outing. I frequently bring along my daughter and my nephew and they operate the antenna and navigate. I am the chauffeur. Other people bring along their children or spouses.

5. We always convene after the hunt at the local coffee shop to swap war stories.

ar

Pounding Brass

Stephen P Smith VK2SPS
PO Box 361 Mona Vale NSW 2103

As conditions improve I've been spending a lot more time on the bands, especially 80 metres, assisting new Novice operators with CW techniques and answering any questions they may have.

Some stations I've listened to can greatly improve their operating practices by following some basic rules which will greatly enhance their operating techniques.

The comments and suggestions contained in this column reflect some 15 years experience. You are welcome to accept or reject any comments made.

Listening

Before blindly jumping in and calling CQ, take the time to listen to the band. Firstly, to see if the frequency is in use, and secondly, to see where the majority of signals are coming from. Whether they be local, skip, or overseas DX, you can learn a lot about band conditions by just taking the time to listen.

Filters

Use a 250 or 500 Hz filter. There is nothing worse than listening to four to six times more QRN and QRM than you need to hear. Filters are readily available and can be purchased at a reasonable cost. A good quality filter makes CW operation much more pleasant.

Zero Beat

To zero beat a signal is to precisely determine the frequency on which it is transmitted.

For instance, take a station calling on 3.530 MHz which I want to contact. The first thing to do is zero beat the signal.

This is achieved by tuning back and forth with the VFO dial until the audio pitch decreases until it disappears at around about 3.534 MHz. This is 0 Hz or what we call zero beat.

Then the RIT or clarifier control is used to alter the received frequency to a comfortable pitch without altering the transmitting frequency of 3.534 MHz (refer to my March column for more information on zero beat).

Multiple Call

When sending a call, stick to the standard 3 x 3 call. Only under good conditions would I ever change to a 2 x 2 call.

When answering a call, most operators send their call only once. I don't recommend this, as it is possible for the station to miss your call, especially if you are off frequency and he is trying to tune you in.

Send your call twice, preferably three times. This gives the other station enough time to tune onto you, especially if you're off frequency. Remember to zero beat him first!

Speed

If you have a tendency to send faster than you can receive, you are going to get caught out sooner or later. The station that answers your call will match your sending speed, which means you will have some trouble in copying him.

One way to slow down your sending is to emphasise the spaces between words. A way in which you can do this is to take your hand off the key at the end of each word.

Once spacing has been achieved with practice, there won't be a need to remove your hand from the key again.

Another problem is answering a station faster than you can receive and expecting him to slow down to your speed. This is pretty unfair and expecting a lot from the other operator. Don't expect too many QSOs if you follow this practice.

Accuracy

Do not make a conscious effort to increase your sending speed, because receiving and

sending speeds will increase naturally with time and practice.

Concentrate on sending good quality code with correct spacing, even if you have to send a little slower

Sending Devices

Don't think about touching electronic keyers or semi-auto keys until you have become proficient in the use of the simple hand key. It is easier to achieve proper spacing techniques using a hand key, rather than iambic or semi-automatics which require a lot more practice.

If it is your goal to send at a faster rate, move onto iambic paddles only after you can correctly send 14 wpm or more with the hand key. Most operators operate at anywhere between 15-30 wpm, with some top-notch operators sending 35 wpm plus.

RST

Signal reporting is internationally recognised throughout the world and is known as the RST system (Readability, Signal Strength and Tone).

Each part of the RST system is broken down and given a particular number. For example, readability ranges from one through to five. Each number is then given a particular meaning relating to readability, 1 being the lowest and standing for "unreadable", whereas 5, being the highest, means "perfectly readable".

This system also applies to Signal Strength and to Tone. Each of these is graded 1 to 9. Most operating manuals contain the RST system, which you should become acquainted with. Don't get into the habit of sending "599" as they do in contests. Be honest with the operator and send what you think is the correct report.

Q-Signals

The Q-Code is a three-letter code used to make statements and to ask questions. If used correctly, quite a lot of information can be passed in the shortest possible time.

You should become familiar with the more common types, as used on the bands today. Also keep a list of Q-codes nearby in case you come across one which is unfamiliar to you.

Summary

We have covered quite a bit this month. Just remember, you don't become a top-notch operator overnight. It takes time and plenty of practice. Learn by asking questions, listen to other operators, and try new techniques until you find the technique that best suits you. ar

How's DX?

Stephen Pall VK2PS
PO Box 93, Dural NSW 2158

The improvement in propagation will attract more and more DX activity to the bands in the future. During the past years when propagation was on the decline, some of us lost interest in long distance communications. We lost some of our DXers to the lure of packet and the Internet. Others opted for VHF activity, and others again sought safety in chit-chat nets at a precise time of each day on a dedicated band segment of their choosing which they considered to be their own private frequency even when it was in the middle of a band segment constantly visited by DXers.

However, circumstances are changing and DXing is back. The 10.7 cm solar flux is now around the 100-120 mark and, despite the constant fluctuation of the A-index (it reached 83 on 5 May with a solar flux index of 123), DX is getting more plentiful and better. There is an interesting DXpedition almost every second week to some usually isolated part of the world.

For those amateurs who, after years of absence, are coming back into the world of DX, here are a few notes of advice.

The essential part of modern DXing is a very good and effective antenna and earthing system. The ability to work split frequencies is almost a must. Operating procedures have changed in many ways so be prepared to change your old habits. The usual question, *"Is this frequency occupied?"* is still valid. Listen and listen again, and do not start transmitting unless you are absolutely sure that the frequency is clear.

The same applies to the tuning of your transmitter, tuning your antenna or your amplifier. Move off the DX frequency, tune on a quiet frequency, and then come back for the DX.

Do not be in a hurry to collect a "new one" every day. Courtesy and honing your individual listening skills will get you better results than the use of the "nominal" permitted power of 400 watts, distorted modulation and wide bandwidth, each of which can cause interference to others. Remember the old saying. Do not do to others what you do not want done to your own signals.

There are many amateurs in Australia who, with the basic power of 100 watts and a simple Yagi or dipole antenna, have worked almost all the 328 entities (formerly countries). Admittedly, it took them twenty years to do so, instead of the one or two years which many of the new generation of DXers hope to do.

Use your full call always despite the bad practice these days of using the "last two". Use the correct ITU prescribed phonetics when identifying your callsign and not the fancy, self-styled, mainly American inspired, nonsense phonetics.

Learn how to use your twin VFOs and to work split frequency. Definitely use correct UTC (GMT) time and date for QSOs. Know the time difference between your local time and the UTC time. Do not use local time in QSOs or on QSL cards. Have two small 24 hour digital clocks in front of you, preferably with different colour displays, one for UTC time, the other for local time.

Please learn again how to keep a correct logbook, date, time, callsign of the QSO partner, operator's name and location, signal reports sent and received, frequency, emission type, power input and azimuth directions of your directional antenna, if you have one. Do not forget to ask, or find out and record the QSL information of your QSO partner.

Practice of the above methods will produce for you the DX that you want. Good luck!

Barry Goldwater K7UGA a Silent Key

The former American Republican Senator Barry Goldwater died in the USA on 29 May 1998, aged 89.

Barry had held an amateur licence since 1921 and his last callsign was K7UGA. During his political life he was the proposer and motivator behind a number of US laws dealing with Telecommunication, the FCC (the American equivalent of the Australian Communication Authority) and amateur radio. In 1964 Goldwater's Bill to allow reciprocal operating arrangements between the USA and other countries was signed into law. In 1982, the law known as the Goldwater Amateur Radio legislation established the amateur auxiliary and the volunteer examination programs, permitted ten year licence terms and exempted amateur radio from the secrecy provision in the Communication Act. Barry Goldwater was honoured in 1983 by the ARRL as "its governmental protector and advocate" by establishing the $5000 ARRL Goldwater Scholarship.

At the age of 77 Goldwater led a DXpedition of seven American amateurs in January 1986 to Taiwan. In those days amateur radio in practical terms was a "no go" zone in Taiwan. There were a few licensed amateurs and less than half a dozen authorised stations, but security was paramount in those days and it was really the luck of the game to have a QSO with the island.

I have a QSL card in front of me. It shows Barry Goldwater in front of a TS-930 and other older type of equipment and the Taiwanese flag on a desk stand. The back of the QSL card says, *"US Senator Barry Goldwater K7UGA led a group of Washington DC amateurs to Taiwan the first week of January 1986. The BV0BG station was established in Taipei the capital city with a population of over 2 million persons. Among the 7000 QSOs made all over the world in seven days, were the first ever from BV on 80 and 160 metres. We appreciate the many persons with the China Radio Association who worked with us in the true spirit of international co-operation to ensure the DXpedition's success."* Then appears a long list of names and callsigns, all of them officials of the association and/or officials of the controlling Government body. My QSO with Barry (he was at the mike at that time) took place on 4 January 1986 at 0803 GMT on 14 MHz with an SSB report of 59. The card also shows a group picture of the DXpeditioners, all of them in business suits and neckties. This would indicate that, besides the amateur activity, there were other official and non-official meetings between the US group and the Taiwanese authorities. The practical result of this visit came years later when the political climate had changed and the laws governing amateur radio were modernised.

Barry loved amateur radio and he used to say that it "relaxed" him. His memory will live on among those who believe that amateur radio is a great equaliser between nations, races, religions, cultures and individuals, and that it is an excellent tool to foster understanding between people of this "global village" of ours.

Brandon Island - 3B7RF

This expedition left Port Louis, Mauritius on 4 May on a boat to Raphael Island, one of the 22 islands making up the Cargados (St Brandon, IOTA AF-015) Archipelago. The island is a small one, about 200 m wide and 300 m long.

There was not much room for movement. The boat, only 36 metres long, was continually rolling, and almost everybody on board became seasick. The trip took 30 hours. It was the CW station which was first to air on 6 May at around 1330 UTC, but soon afterwards one of the generators failed. Installation of the SSB station was completed on 7 May. They were running two SSB and two CW stations, installed in tents approximately 200 m apart, with 500 watts output

only. A RTTY station came on air a few days later.

Propagation to Europe was excellent and they worked the Europeans for hours. There were only limited openings to the Pacific making the contacts to VK/ZL difficult. The SSB operation was closed down on 16 May and the CW operation closed on 17 May. The DX group made over 53,000 QSOs.

The return journey from Raphael Island to Mauritius was even worse. It was a harrowing 75 hour trip aboard the vessel Umbria II. At one stage the boat had to anchor in a safe harbour.

As postage costs from Switzerland to overseas countries are expensive, the DXpeditioners require two IRCs or two "green stamps" for direct QSLing, otherwise the cards will be returned via the bureau system.

Cards should be sent to the Manager, Postfach (Post Office Box) 37, CH-6319, Allenwinden, Switzerland.

Guest Licence Arrangements

No, I do not want to mislead you. Such an arrangement is not here, in Australia, but it will be soon a reality between the US and the European CEPT administration.

The ARRL, the US radio amateur representative body, has urged the US State Department (Ministry of Foreign Affairs) since 1991 to start negotiations with ERO (The European Radiocommunications Office) for participation in the European Conference of postal and Telecommunication Administrations (CEPT) amateur radio licensing system.

According to the news Bulletin No 13 published by the ARRL, the State Department formally applied for participation last September. Approval of the US request came late in January this year, at a meeting of the CEPT Radio Regulatory Working Group (WGRR) in Groeningen, the Netherlands. The US FCC (Federal Communications Commission) will be officially notified about this.

Under the arrangement, holders of a CEPT licence can operate in a CEPT participating country without having to apply for a reciprocal licence. In short, US amateurs will be able to operate in most European countries and their dependencies, and European amateurs will be able to work from the USA and its dependencies without a reciprocal licence.

The FCC has already proposed changes to the rules of the amateur radio service to make it easier for amateurs holding a CEPT or an International Amateur Radio Permit (IARP) to operate during short visits to the US.

The arrangement will benefit only full call or VHF privileged amateurs. Novices would not be eligible for a CEPT equivalent licence since most CEPT countries do not offer a licence of this type.

Campbell Island - ZL9

In the May issue of *Amateur Radio* we reported the preparations for the January 1999 DXpedition to this island group. According to the latest news, this activity represents possibly the last chance for many years to come for a QSO with this DXCC entity and IOTA island (OC-037).

The New Zealand Department of Conservation is restricting access to the island and permission to visit the island was granted only because of representation at the highest level of government and continued hard work by the team leader Ken Holdum ZL2HU. The eleven member team comes from Ireland, Japan, USA, Canada and New Zealand.

They will be active as ZL9CI on all bands and modes from 9 to 25 February 1999.

The total budget for the expedition is in the vicinity of $US85,000, to which the members of the team have contributed $US33,000. Donations so far have reached $US11,000, but almost $US38,000 is still needed to meet the expected cost of the DXpedition. Donations should be sent to the Kermadec DX Association, PO Box 56099, Tawa, Wellington, New Zealand.

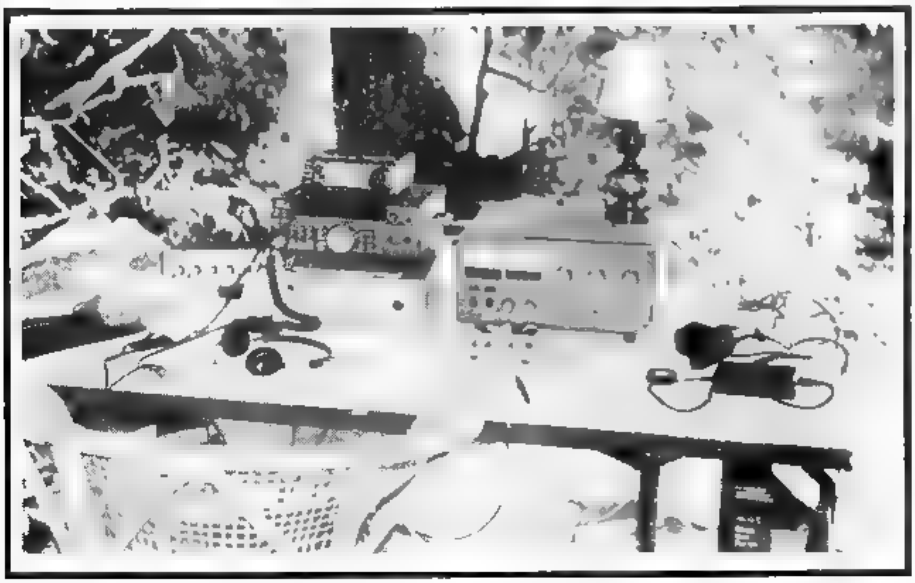
RW1AI Is Closing DXpedition Logs

Mikhail I Piskizjov RW1AI (ex UA1AFM) says that he will close the following DXpedition logs on 31 December 1998. If anyone still needs QSLs please send your cards during 1998 either via the bureau or direct to Box 2, St Petersburg, 195009, Russia.

* K1B Mirny Base, Antarctica - Feb/Mar 1981.
* 4K1D Novolazarevskaya Base, Antarctica - Mar 82/Mar 83 and May/ Nov 91.
* 4K1F Bellingshausen Base, South Shetlands - Feb 1991.
* 4K1G Leningradskaya Base, Antarctica - April 1991.
* 4K1AFM Novolazarevskaya Base, Antarctica - May/Nov 1991.
* 4K4AFM Severnaya Zemlya AS-042 - Jan/July 1990.
* 4K0E SP-29 Drifting Station - June 87/ May 88.
* UA1AFM/UA0 Severnaya Zemlya AS-42 - May 84/May 85.
* UA1AFM/UA0B Severnaya Zemlya AS-042 - Oct/Dec 1989.

Future DX Activity

* **Nepal.** Charlie K4VUD will be active as **9N1UD** from Nepal at his local sunset and sunrise every day on 14023, 14195 and 14215 kHz, and he will try also 21023, 21295, 7023, 7065 and 3799 kHz as well as the 160 m DX window.
* **San Ambrosio.** John CE0ZAM has advised that his San Ambrosio activity, **XQ0X**, has been postponed from April/May to September due to transportation problems.
* **Baffin Island.** Louis VE2BQB will be active on SSB and CW as **VE8TA** (Zone 2) from the end of May until the end of November. QSL via VE2BQB Louis Paquet, 1368 Rang 4, Lac au Salmon, PQ G0J - 1M0, Canada.
* **Rodriguez Island - 3B9.** During the Visalia (US) International DX Convention, Frank Smith AH0W/OH2LVG announced that a multi-national group will be active from Rodriguez Island (AF-017) in the northern autumn (Sep-Nov).



The operating desk of H40AB and H44/VK9NS on Pigeon Island, Temotu Province, Solomon Islands.

* **Bhutan 1999 - A51.** Yasuo "Zorro" Miyawaza JH1AJT is organising a team of international operators to conduct a return DXpedition to Bhutan early in 1999.

He first operated from Bhutan in February 1995.

* **Philippines.** Klaus **DU1/DL5ZAH** will be active from Manila for the next four years. His favourite mode is CW. QSL via DL5ZAH through the German QSL bureau, or direct to Klaus Illhardt, ETSI Technologies Inc, ADB Ave, JMT Bldg, Ortigas Center, Pasing City, Metro Manila, Philippines.

* **Tromelin.** Jacques **FR5ZU/T** is scheduled to visit Tromelin again, possibly in July.

* **Tristan da Cunha.** Ian **ZD9IL** operates daily from 0900 to 1600 UTC on one of the frequencies 18135, 14205, 21260, 21295, 24955 or 28490 kHz. Ian listens slightly off frequency, up and down.

Edwin ZS5BBO is the QSL manager. His address is Edwin Musto, PO Box 211032, Bluff, South Africa, 4036. Mail service from the island is very infrequent so you must be very patient and wait for your card.

* **Austral Islands - FO.** Albert **FO5JR** will leave Tahiti on 20 July and arrive on Rimatara Island (IOTA OC-050) in the Austral Island Group on 22 July. He hopes to start his activity on 24 or 25 July, and will stay on the island until 13 August.

He will use CW only around 14010 and 21010 kHz. He does not like pile-ups and wants a standard QSO. QSL to his home call.

* **Belize - V31.** Stan W5JYK, Wondi K5KR and Mike W5ZPA will be active from 26 to 30 August as **V31YK, V31KR** and **V31MP** respectively. QSL to each operator's home call.

* **Hong Kong - VR2.** It was reported that Serge F6BHK will be active as **VR2/F6BHK** from Hong Kong for the next two years.

* **Algeria.** Afif **7X2RO** is active again around 2040-2100 UTC on 17 metres. QSL via F6FNU.

* **Amsterdam Island.** Bernard (ex FB8XW and FB8YI) will be on the island until December using the callsign **FT5ZI.**

* **Chagos.** The station signing **VQ9GB** was heard around 1400 to 1500 UTC on CW on 14030 kHz. QSL via K7KG.

Interesting QSOs and QSL Information

* **FR5ZQ/T** - Henry - 21000 - CW - 0723 - April QSL to Henri Namtameco, Rampe de Saint Francois, 5052 Tour La Chaumiere, F-97400 Saint Denis France.

* **HV4NAC** - 14190 - SSB - April. QSL via IK0FVC via QSL Bureau.

* **KP2AD** Lubos - 14195 - SSB - 1031 - April. QSL via OK1AUY via QSL Bureau.

* **YS1RR** - Raymondo - 14235 - SSB - 0630 - May. QSL via DJ9ZB, Franz Langner, Benfelder Str 4, D-77955, Ettenheim, Germany.

* **H75A** - Mike - 14260 - SSB - 0616 - May. QSL via N5FTR William M Loeschman, 717 Milton, Angleton, TX 77515, USA.

* **CU3DJ** - Marco - 14260 - SSB - 0512 - May. QSL via the Portuguese QSL bureau.

* **4S7RO** - Ron - 14210 - SSB - 1200 - May. QSL via the QSL Bureau or direct to J Rohan A Goonetilleke, 298 Kolamunne, Piliyanddala, Sri Lanka.

* **FT5XN** - Helios - 14024 - CW - 0545 - May. QSL via F6PEN, Gerard Ribes, 16 Rue Violet Le Duc, Toulouse, 31100, France.

* **3B7RF** - 14195 - SSB - 0439 - May. QSL via HB9RF, PO Box 37, CH-6319, Allenwinden, Switzerland.

* **EG4ITD** - 14011 - CW - 0543 - May QSL via the Spanish Bureau to EA4RCU.

* **CO6LG** - Logio - 14192 - SSB - 0508 - May. QSL via PO Box 1 Venegas, 64180 Cuba.

* **XM7P** - Scott - 14160 - SSB - 0514 - May. QSL via VE7ARS via the QSL Bureau.

From Here And There And Every Where

* It was interesting to read an article by Richard Macey in the Sydney Morning Herald of 30 May 1998 discussing everyday life on the MIR space station.

He quotes a letter entitled "A Typical Day on Space Station MIR" posted on NASA Internet written by the Australian born astronaut Dr Andrew Thomas **VK5MIR/KD5CHF.**

According to the article, Dr Thomas, who holds dual US and Australian Citizenship, should land at Cape Canaveral on 13 June. He is the seventh and last NASA astronaut to live aboard the 12 year old MIR.

* **Guatemala.** Franco **TG9NX** reports that he wants his cards to be sent via N4FKZ, as the Guatemalan QSL Bureau is not functioning at all.

* **SV2ASP/A** Monk Apollo on Mt Athos reappeared on the 14243 European DX Net and said to QSL direct only to his call book address, and no IRCs, only "green stamps".

* **DH - Germany.** Since 1 May 1998 all "A" class licences (DH) have been automatically upgraded to B class licences and therefore there are many new German DH prefixes on the DX bands. A new "training licence" has been also established, where operation is under the personal control of a tutor amateur, and will carry the prefix DP.

* The **Brazil Net** is now held on Saturday and Sunday at 1300 to 1500 UTC on 28433 kHz and from 1900 to 2100 UTC on 14222 kHz. It is also on air from Monday to Friday from 0900 to 1000 UTC on 14240 kHz.

* **Israeli Amateurs** can add a /50 suffix to their usual callsign until the end of the year to celebrate the 50th anniversary of Israel.

* According to statistics collected by the **IARU** (International Amateur Radio Union) the number of radio amateurs in the world has reached 2,770,000.

* **The 26th SEANET** (South East Asia Net) Convention will be held in Singapore from 13 to 15 November 1998.

* **French amateurs** are now permitted to operate between 1810 and 1850 kHz in the **160 m** band.

* **Jan Mayen.** QSL cards for contacts made with Per **JX7DFA** can now be obtained from Annar LA2KD who has received the logs.

This "water taxi" and a three hour open sea voyage takes you to Pigeon Island.

* **Turkish QSL Bureau.** The new address for the Turkish Amateur Radio Society QSL Bureau is TRAC QSL Bureau, PO Box 699, 80005 Karakoy, Istanbul, Turkey.

* **France.** If you worked some French stations during June or July with the strange prefix of **FBC** it means that they are celebrating the World Cup activity from 12 June to 14 July.

* **Afghanistan. YA5MKO** was heard in Europe early in May. No further news of its status.

* **Kure.** There is still some confusion about the KH7 prefix which is now used by Hawaii. But, if the first letter of the suffix starts with a "K", ie **KH7K**, this would be a Kure callsign.

* If you send direct mail to **St Helena Island - ZD7**, mark the envelope "via Ascension Island". Envelopes not marked as such might go via South Africa and not reach St Helena.

* **Scotland. GB5HQ** will be active in the IARU HF Championships on 11 to 12 July from the location of GM3WOS near Thin in the highlands of Scotland.

* **Nicaragua.** The **H75A** activity from Isla De Venado (IOTA NA-209) produced 6,914 QSOs in 63 hours of operation.

* **New Zealand.** The recently formed Auckland Contest Club has obtained the special callsign **ZM1A** for the month of June. The club members are Jacky ZL3CW, Ron ZL1AMO and Mark ZL1BMW.

* **Mongolia.** The Hungarian DX Group did not get permission to use the JH0HA callsign and they had to change their call later from JA1HA to JT1X.

* **Saudi Arabia.** Mike K3UOC, who operated from Saudi Arabia for many years, has now returned to the USA. He made over 110,000 contacts with the callsign **7Z5OO**.

QSLs Received

* **D68YV** - (3 m - op Chris Zeller, Jaeger Str 19, 8200, Schaffhausen, Switzerland.
* **H40AB** - (1 m - VK9NS).
* **FT5XN** - (3 m - F6PEN).
* **EL2JR** - (3 m - via KB3U Albert J Ramonosky, 10391 Circle Pine Road, North Fort Meyers, FL 33903, USA.
* **8Q7AA** - (2 m - N7TXO).
* **XW30A** - (3 m - SM0DJZ).

Thank You

As always, I am grateful for the assistance given to me by many of you. Special thanks are due to VK2EFY, VK2KFU, VK2TJF, VK2XH, VK4LV, VK5WO, VK9NS, DJ3AS, *The Sydney Morning Herald*, *DXCC News Release*, *Ohio/Penn DX Bulletin*, *QRZ DX*, *The 425 DX News*, *The DX News Letter* and the *DX News Magazine*

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Spotlight on SWLing

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MUF

Winter is here and radio conditions have changed, with signals more easily observed in the daytime rather than the evening hours. Also, I have noticed that the MUF has dropped down as low as 9 MHz at night, yet in the daytime it can go up as high as 29 MHz. As well, an occasional solar flare disrupts HF communications.

VOA

As mentioned last month, the VOA in Washington DC introduced their new rolling 24 hour news format in English as from 0000 UTC on 29 May. The first major story covered was the Pakistani nuclear detonation and its aftermath. The VOA in their new format can be easily heard in this region. Try 0000-0100, 15185, 15290 or 17735 kHz; 1000-1100, 5985 or 7405 kHz; 1100 onwards, 9645 or 6160 kHz; 2100-2400, 15185, 15290 or 17735 kHz.

There are other channels that may be audible at times, directed to other regions. Although the program is on 24 hours it is not covered continuously on short-wave. Also, if you go to their Website *http://voa.gov* you have the chance to also download the program in Real Audio format. There is also a TV camera that has a still shot of announcers in the studio, with updates every 45 seconds, allowing you to see who is talking.

Radio New Zealand

Radio New Zealand International (RNZI) in Wellington is going to continue for at least another year, following the announcement in their Budget. A grant of $NZ700,000 will allow it to continue. The lack of a suitable broadcast structure in the Southwest Pacific has meant that many island communities solely rely on RNZI for news, information and particularly weather bulletins.

Indonesia

Indonesia was making the news throughout May and many followed developments via the National program of Radio Republik Indonesia (RRI) from Jakarta. This is widely heard now in Australia on 15125 kHz from about 2200 until 0700 UTC. There is another network occasionally observed on 15150. The English program from the External service is now on 11785 kHz at 0800 UTC. Some international broadcasters did significantly increase their output in Indonesian. Radio Netherlands and Radio Australia did increase their programming but the Darwin site was not utilised. It is still in mothballs.

Australian Defence Forces' Radio

The Australian Defence Forces' Radio in Canberra is still active. I came across it on 14790 kHz USB at 0430 UTC. I do not know where the senders are but they previously were using the Belconnen facility. It probably was from Northwest Cape (WA). Programming is mainly musical with dedications, and a short news bulletin is heard plus sporting updates.

This station can be classed as a broadcasting station although others maintain it is a utility. It is not a feeder station.

DX Australia

Another Australian DX club has ceased to exist. "DX Australia" had its final meeting on Saturday, 28 June and it no longer publishes its monthly newsletter *DXers Calling*. Membership of all Australian clubs has been steadily falling. Now moves are again being floated for one single national organisation. However, the differences are too wide and the clubs are too parochial to see the benefits of amalgamation.

Technology has also made it increasingly difficult for the average DXer to pursue his hobby. I have heard rumblings from time to time about the horrendous interference from the ever-increasing electronic gadgetry in the general community. Now I am told that overhead cables for Pay-TV are acting as radiators on HF between 0 and 30 MHz. Fortunately, here in Northern Tasmania, no Pay-TV exists but there is talk of a microwave distribution system being established.

I know that hash from overhead cables is a problem in Melbourne and Brisbane. Only one major carrier uses overhead whilst the other player is underground. However, de-scrambler boxes also put out harmonics.

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Support the WIA in order to protect amateur radio frequencies!

AMSAT Australia

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[redacted]
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Six Monthly Update of Amateur Radio Satellite Status

Based on information at the time of writing, here are short summaries of the status of currently operational amateur radio satellites.

RS-12
Uplink 145.910 to 145.950 MHz CW/SSB.
Downlink 29 410 to 29.450 MHz CW/SSB.
Operational in mode A.

RS-15
Uplink 145.858 to 145.898 MHz CW/SSB.
Downlink 29.354 to 29.394 MHz CW/SSB.
Operational. Best on CW mode.

AO-10
Uplink 435.030 to 435.180 MHz CW/LSB.
Downlink 145.975 to 145.825 MHz CW/USB.
Beacon, continuous carrier on 145.810 MHz.
Operating intermittently depending on sun-angle.

AO-27
Uplink 145.850 MHz FM
Downlink 436.792 MHz FM.
Operational, but I have no reports from VK.

FO-20
Uplink 145.900 to 146.00 MHz CW/LSB.
Downlink 435.80 to 435.90 MHz CW/USB.
Operational in voice JA mode.

FO-29
Voice/CW Mode JA.
Uplink 145.900 to 146.00 MHz CW/LSB.
Downlink 435.80 to 435.90 MHz CW/USB.
Operational in voice JA mode.

KO-23
Uplink 145.900 MHz FM 9600 Baud FSK.
Downlink 435 175 MHz FM
Operational

KO-25
Uplink 145.980 MHz FM 9600 Baud FSK.
Downlink 436.50 MHz FM.
Operational

OSCAR-11
Downlink 145.825 MHz FM, 1200 Baud PSK.
Beacon 2401 500 MHz.
Operational.

OSCAR-16
Uplink 145.90, 145.92, 145.94, 145.86 MHz FM 1200 bps Manchester FSK.
Downlink 437.0513 MHz SSB 1200 bps RC-BPSK 1200 Baud PSK.
Beacon 2401.1428 MHz.
Operational.

OSCAR-19
Uplink 145.84, 145.86, 145.88, 145.90 MHz FM 1200 bps Manchester FSK.
Downlink 437.125 MHz SSB 1200 bps RC-BPSK.
Operational.

UO-22
Uplink 145.900 or 145.975 MHz FM 9600 Baud FSK.
Downlink 435.120 MHz FM.
Operational

Satellites normally listed but currently not operational include IO-26, WO-18, DO-17 and RS-16 which are all undergoing testing or re-booting.

Future of the Russian MIR Space Station.

As I write this copy, the Space Shuttle flight STS-91 is docked with MIR for the last time. Andy Thomas is packed, ready to come home. The Russian crew members are looking to make MIR ready for her final few months in orbit.

In fact, the whole MIR saga is drawing to a close. And what a saga it has been for amateur radio!

Who would have thought that a manned Russian Space Station would acquire such a high profile in amateur radio circles. It would be difficult to imagine that any amateur radio operator, anywhere in the world, would not be aware of the activity on MIR.

My latest information is that, when the time comes, MIR's orbit will be allowed to decay and that, after a lot of "flimsy bits" like solar panels and light superstructure have burned off in the upper atmosphere, the bulk will drop into the Pacific Ocean some time later this year or early next year

That will end an historic period of activity for radio amateurs.

In recent years we have seen visitors from a number of countries take part in the scientific activities aboard the MIR station. Most of these visitors have also been involved in the day to day amateur radio activities on MIR. None has created as much interest here in Australia as the last, Dr Andy Thomas.

Born in South Australia, Andy took out American citizenship to allow him to take part in the astronaut training program. Because of his Australian connections and family in VK5, his stay on MIR has been of special significance to VK amateurs.

Since I started writing this column in October 1991, MIR and its amateur radio role have been the subject of numerous mentions, and rightly so. It has been highly instrumental in popularising amateur radio satellite activity and raising awareness among the general amateur fraternity.

It is not known at this stage when the amateur radio gear on board MIR will be turned off for the last time but one thing will be certain, we will miss MIR.

That's worth saying again...WE WILL MISS MIR! Of course we look forward eagerly to its replacement, the International Space Station. The plans for its amateur radio component are already well underway

Maggie VK3CFI

Any summary of the amateur radio involvement in the MIR station would be incomplete without mention of Maggie VK3CFI. Known to the Russians as Rita, Maggie pioneered the educational role that was to become such an important part of MIR's contribution to amateur radio.

From her home in Colac, Victoria, Maggie began by making friends with the early Russian crew members. This was aided by her fluency in the Russian language. "Commander Anatolij calling Rita" was a familiar sound in the small hours over Colac in those days.

AMSAT National Co-ordinator
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AMSAT Australia Net
Control station - VK5AGR
Bulletin normally commences at 1000 UTC, or 0900 UTC on Sunday evening depending on daylight saving and propagation. Check-ins commence 15 minutes prior to the bulletin.
Frequencies (again depending on propagation conditions):
Primary - 7.068 MHz
(usually during summer).
Secondary - 3.685 MHz
(usually during winter).
Frequencies +/- QRM.

AMSAT Australia Newsletter and Software Service
The newsletter is published monthly by Graham VK5AGR. Subscription is $30 for Australia, $35 for New Zealand, and $40 for other countries by AIR MAIL. It is payable to AMSAT Australia addressed as follows:

AMSAT Australia
GPO Box 2141
Adelaide SA 5001

Keplerian Elements
Current keps are available from the Internet by accessing the AMSAT FTP site, *ftp.amsat.org* and following the sub-directories to "KEPS".

A high school teacher, Maggie gradually raised the possibility of her students coming to her home to talk to the crew members. This was pretty radical stuff at the time and had to be handled with kid gloves. After the ice was broken she refined her methods to bring satellite studies into her curriculum and the whole notion of "school contacts with MIR" was born.

This has been expanded in recent years to include the various Space Shuttle missions and has even spawned a couple of new "words", SAREX and more recently, MIREX.

Maggie's initial work was done in the days when MIR was in no way newsworthy and was practically unknown to the general public. The small Victorian country town of Colac was probably more widely informed on the goings-on on board the Russian Space Station than any other community outside Star City in Russia.

In the following years MIR has played a major role in Maggie's life. She has been a popular lecturer on the subject and has clocked up many kilometres in travels to radio clubs and meetings, her infectious enthusiasm inevitably leaving her audience resolving to "do something about setting up for MIR".

Her enthusiasm has remained to this day and I'm sure it will be a tearful farewell for her when the big Russian flagship takes its final plunge.

IRIDIUM Satellite Flares

Those of you who have tried watching for visible satellites at night, particularly the easier seen ones such as MIR, Hubble and the Space Shuttles, will have become familiar with the way the brightness can vary as they move across the sky. This is due to the changing sun-angle and the reflection angles relative to the observer.

Motorola's Iridium series satellites have introduced another dimension to this popular pastime. These satellites are seen to produce a brief but dramatic increase in brightness, a "flare", up to -8 magnitude, when the reflection conditions are just right.

The flare occurs when a particular antenna on one of the satellites aligns correctly between your location and the sun. Because these satellites are held in a very stable attitude while orbiting, it is possible to predict when these flares are likely to occur.

Information on this phenomenon is available on the web at *http://www.satellite.eu.org/sat/vsohp/iridium.html* and a prediction program is also available from that site. It has links to other sites where current keps for the IRIDIUM series can be downloaded. By the way, -8 magnitude is bright enough to be seen during the day.

Repeater Link

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ACA Reply

Our repeater club in VK6 applied for a 40 to 2 metre gateway licence about 5 months ago and the ACA have said no!

This comes as no surprise as any new idea that does not conform to the narrow regulations, usually receives the thumbs down. To me there is a basic conflict between amateur radio being an experimental hobby and applying regulations. If what you want to do does not conform to the regulations you have a problem. Regulations by their nature are designed to restrict and this does not sit well with a hobby like amateur radio, and rapidly changing technology.

However, we still need regulations but what we need is clever regulations. So how do we go about creating clever regulations that don't frustrate experimentation? The 40 to 2 metre gateway is a good example of how restrictive amateur regulations are in this area, in Australia.

The Gateway

Firstly, for those of you who don't know what the 40 to 2 metre gateway is about, a brief description.

The idea came from the need for those amateurs, who are unable to operate on HF any more due to a range of reasons, to have limited access onto a HF band. The need was there, now came the technical means on how to achieve this.

The solution was to install a two metre repeater with a few extra functions. This repeater was connected to a 40 metre SSB transceiver and operated in the following way.

Normal operation could occur on the two metre repeater. To access the 40 metre SSB receiver, a couple of possibilities had been looked at. Simply transmitting on the two metre repeater's input by announcing your call sign, would connect the 40 metre receiver to the two metre repeater's output and you would hear whatever activity there is on that particular 40 metre SSB frequency.

The two metre repeater would remain in this re-transmit mode from 40 to 2 metres for a pre-set period, say 10 minutes. If there was no amateur activity you would hear 40 metre noise. Any input on the two metre repeater's input would mute the 40 metre activity so normal contacts could occur via the two metre repeater.

Simply by operating on the two metre repeater, a single 40 metre frequency could be monitored as well. This made sure the frequency was free or monitored, whoever was using the frequency. This 10 minute re-transmission also overcame the need for a mute system on the 40 metre receiver.

In order to transmit onto the 40 metre SSB frequency from two metres, a CTCSS tone is required. Simple enough, as it is a positive action required by the amateur operator and limits the gateway onto 40 metres to only those amateurs who are licensed to operate on 40 metres.

Regulation Problems Number One

The licence application, even though turned down, did provide the exact reasons for why it was turned down.

The first reason was a carrier in the absence of a received signal. The two metre repeater, once activated by an incoming carrier on two metres, re-transmits the 40 metre SSB frequency onto the two metre repeater's output for reasons explained above. This is not allowed, as there is a repeater regulation that says a repeater cannot transmit in the absence of an input signal.

The normal carrier tail and ident on the repeater are accepted. The question I have is, why not? What is the problem with a repeater transmitting in the absence of an input as long as the repeater's output has an ident on it? You could argue that there was an input and that being the station that announced his presence on the repeater, but the intent of the regulation is, as soon as the input signal goes, so must the output signal.

I believe this regulation is due to history. The acceptance of repeaters in Australia by the licensing authority has been one of very little at a time. Concerns of where it all might lead with remote repeaters all over the country side would make any authority nervous and slow to allow the regulatory changes. A case of give them a little and watch for a few years.

Repeater transmitters going spurious and remaining locked on for hours on end was the main concern way back. The time-out timer perhaps is one way of limiting any damage. At least if a repeater went spurious, a time-out timer was some form of control.

What followed then was you must have an input to have an output. Way back, this was not a problem as basic repeater systems were just that, basic. Just to place a repeater on air was a big accomplishment and any fancy add-

on ideas were a long way in the future. But now the fancy ideas are coming up against regulations meant for an earlier time.

I ask again, what is the problem with a repeater transmitter remaining on intentionally for a specific reason? The repeater transmitter is under control of a circuit just as the "no input no output" is. Both are circuits controlling the transmitter. One is logic from the repeater's receiver and the other logic from the repeater's receiver and a timer.

Regulation Problems Number Two

No repeaters below 29 MHz is the second reason for turning down the gateway license.

Some other countries allow HF gateways, so there is not a fundamental law preventing gateways onto HF, or some international problem.

Once again, this limitation could well be based on, "there might be a problem we don't know about so it is best to say no".

This regulation needs to be changed to allow experimentation in Australia. HF gateways, or remote bases as they are called, have been in operation in the USA for decades. Some of these systems are very sophisticated, allowing access to all HF amateur bands with full remote control onto two metres or 70 centimetres. And I mean full control! You can tune to any frequency via your DTMF pad, along with rotating the beam!

Regulation Problem Number Three

This regulation problem was not mentioned by the ACA in their reply to the licence application, but why not mention it anyway: no re-transmitting an amateur without his permission, except on designated repeater frequencies.

The 40 metre gateway breaks this regulation, as any station coming up on the particular 40 metre frequency is re-transmitted once the two metre repeater's transmitter is triggered. I find this a curious regulation. I can transmit all over the world on any number of HF frequencies and be listened to by thousands of people, but if someone re-transmits my audio onto another band without my knowledge, it is breaking a regulation in Australia.

Why? What are we so concerned about. My amateur transmission can be received anywhere in the world and be re-transmitted onto the Internet without my knowledge. This regulation may no longer be relevant if gateways were allowed on HF, as by their nature they are designed to re-transmit. But the remote bases in the USA re-transmit any desired frequency onto two metres, etc without seeking permission.

The Problem

As you may have seen from my comments on the 40 metre gateway proposal, regulations cause all sorts of problems. As soon as you have a regulation there is conflict and confusion as to why there is the need for the regulation and just what the regulation means. I have seen many examples in Australia of amateur regulations being applied differently in different States. What was allowed in some States was not allowed in others. If the regulators differ over the intent, then what chance do amateurs have?

How to Change

By now you must think all the problems I have outlined are the making of the ACA.

This is not true! We amateurs are just as much to blame, as we are part of the regulation making structure and have been all along a party to the regulation making process. However, how we negotiated is important.

We must support regulations that allow the widest experimentation and make sure the regulations are relevant and make sense. With every regulation there should be a clear explanation as to why the regulation is there. Any governing body can get it wrong. Their perception as to why a regulation is there can be wrong, or the need changed due to changes in society or technology.

The WIA is our negotiating body and it is in dire need of support to bring about regulation change. Without detailed input from amateurs the WIA has limited information to represent us. This input is not the *"when are they going to do something about it"* but writing detailed submissions and presenting them to your local WIA for endorsement.

The WIA

While briefly on the topic of the WIA, just who are "the WIA"?

We all refer to the WIA as if it is a large number of people all waiting to serve. We then wonder why at times so little is done and why it takes so long.

The answer is there is not a large number of people all waiting to serve. If you count up the number of "the WIA" who are in this administrative role and who have a direct link to Federal policy making, and who do the work, I have difficulty in finding more than three or four people. These are the people who do the leg work, not just fill positions, but write documents, try to seek input and argue our case with the authorities. A lot of this work is very time consuming. A two page submission on some regulation change can and does take 20 to 30 hours to prepare and present. When was the last time you devoted this amount of time to amateur radio that was not for your direct benefit?

FTAC Notes

John Martin VK3KWA
[redacted]
Federal Technical Advisory Committee
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UHF Link Frequencies

In February *Amateur Radio* I suggested that the sub-bands 422 - 423 and 442 - 443 MHz could be reserved for use by wide band data links. Peter Mudie VK2XZP has pointed out that a repeater needs the greatest possible separation between its transmitter in the 439 MHz region and its link receiver above 440 MHz. So we need to retain some spectrum space for narrow band links in the high end of the 420 - 423 and 440 - 443 MHz link segments.

I would therefore suggest revising the band plan so that, where possible, wide band data links should operate on 100 kHz spaced channels between 421 - 422 and 441 - 442 MHz. Any further comments or suggestions would be welcome.

EPROMs for Surplus FM Radios

Lately I have noticed an increase in the number of FM signals appearing in the two metre SSB or beacon segments. The problem seems to be due to an influx of surplus Philips radios fitted with EPROMs which include non-FM frequencies. I saw a listing of one EPROM which contains seven beacon frequencies and a number of channels in the 145.800 - 146.000 MHz satellite segment.

These EPROMs are bad news because they can cause clashes and interference problems for everyone concerned.

If you have obtained one of these radios but don't have an EPROM yet, it could be a good idea to check first to make sure you don't get a dud EPROM. If an EPROM is consistent with the band plan, it should only contain frequencies between 144.700 and 145.775 MHz, and 146.025 to 147.975 MHz. **ar**

Computers

This month's column was difficult to find time to write as I have spent most of my free time over the past month re-building one of my computers. What a frustrating and time consuming job! **ar**

VHF/UHF
An Expanding World

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All times are UTC

Andy Thomas

As I write these notes, Andy Thomas VK5MIR on the Russian space station MIR is waiting for the arrival of the Space Shuttle *Endeavour* to bring him back to earth.

Many stations were able to make contact with Andy via 145.985 MHz FM. I was one of those fortunates and worked him in March when his signals were 40 dB over S9.

Unfortunately, though, many other VK5s missed the opportunity because the channel was monopolised, on many of the five minute passes, by packet radio and voice constantly emanating from one VK5 station, effectively preventing others from having any chance of contacting Andy, much to their disappointment and probably that of Andy too. Such operating practices would never be tolerated on 20 metres.

The view of others, with which I agree, is that when time is very limited in which contacts can be made, then we have a responsibility to share any orbiting object, whatever it may be, with others desirous of making a contact. Only then can we say that the true spirit of amateur radio has prevailed. In this case, self prevailed!

Six Metres

Scott VK4JSR offers this plea. It seems that the band plan for 50 MHz is being totally ignored. During the incredible E and Aurora opening on 4/5, the number of VK operators using 50.110 MHz for a domestic calling frequency was unbelievable.

"More surprising was the northern VK2 who asked the VK3s calling on 110 to stand by, and I quote, "I'll get to the breakers soon" (You have to feel sorry for his next door neighbour, who was a six metre DXer, and who can no longer operate!)

"I know that most of you operate within the terms of the band plan, however I am at a loss to work out what we can do to further educate those who still insist on using the DX window as their domestic chat zone. Suggestions?"

Sorry, Scott. Over a long period of time I have done my best. UK/EU stations do it, JAs do it and so do others. To their credit, the W and VE stations seem to be the most disciplined at the moment.

A45ZN

Ted Collins G4UPS reports that Tony Selmes A45ZN has been operational in the middle east country of Oman since 25/3/98.

His first six metre QSO was with Dudley Z22JE on 28/3 at 1410 and 5x9 signals. His next opening was 5/4 when he worked five VR2 stations in Hong Kong! On 10/4 he worked JS6CDB followed by another seven Okinawa stations, all on CW. On 11/4 the band opened at 0954 with SSB contacts to a pile of VR2 stations. At 1016 he worked V73AT on CW, then more VR2 stations until 1158.

On 12/4 from 1132 to 1213 Tony worked four VR2s and on 13/4 from 0800 until 1000 he worked a mixture of JR6 and VR2 contacts on SSB and CW for a total of 22 stations. On 18/4 he worked three more VR2 stations.

In all, Tony has worked four countries, Z2, JR, VR2 and V73 for a total of 69 six metre QSOs. His QSL Manager is Ted Collins, G4UPS, 27 Parklands, Hemyock, Cullompton, Devon, EX15 3RY, UK.

I bring you the above information because A45ZN should soon be within range of VK if the same conditions can prevail across the equator. Keep Tony in mind for the next equinox.

Countries worked by Ted G4UPS for April include SM, I, EH7, SP2, YU, S57, 9A4, 9H1, IS0, for very few contacts. Beacons heard GB3MCB, GB3NHQ, GB3RMK, SK3SIX, S55ZRS, YU1SIX and 7Q7SIX. Rather lean pickings for Ted!

Japan, Australia, and the South Pacific

Hatsuo Yoshida JA1VOK also reported on the excitement generated by A45ZN and other interesting DX. Hatsuo noted that the first Japan-to-Africa contacts of Cycle 23 were made on 12 April, when 5R8EE worked 7J6CCU and seven other stations on Okinawa, including JA1VOK/6.

Other calls that appeared in Japanese logs during April included numerous 9M2s (West Malaysia), 9M6s (Sabah), and BVs (Taiwan), FK1TK (New Caledonia), P29KFS (Papua-New Guinea), T88IY (Belau), V63AO (Micronesia), YC8UVO and YB8FEX (Indonesia), and YJ8UU (Vanuatu).

Australians and New Zealanders also worked several of these countries, along with three 3D2s (Fiji), P40AM (Solomon Islands), HL1LTC (Korea), and V73AT (Marshall Islands). K6QXY heard FO5DR (French Polynesia) on April 7. KH2JU (Guam) worked VR2XMT, and several Hawaiians worked both east and west across the Pacific, including 3D2 and V73AT.

de W3EP

Winter Es to VK

Bob ZL3TY (RE57om) reports that on 28/5 at 0517 VK TV video 46.24 MHz and at 0725 VK2BHO on 50.140. 29/5: 0125 VK TV 46.24, 0405 VK7RAE/b, 0537 VK2BHO, 0540 VK3AJN, 0545 VK3ANP TV still strong at 0745.

Six Metres

Emil Pocock W3EP in *QST's The World Above 50 MHz* reports *"Six-metre DX activity around the world picked up during April. Contacts were still almost exclusively limited to north-south paths that crossed the equator and longer east-west paths at low latitudes. DX activity in the US was restricted primarily from the southern states to South America. Even so, there was an astonishing amount of activity.*

"The Americas

"A mixture of transequatorial (TE) and regular F-layer propagation made north-south contacts over equatorial regions possible nearly every day of April. The largest portion of all contacts were made from south Texas to Argentina, but US stations across the entire southern tier of states, from Florida to southern California, also worked Argentina, Uruguay, and Brazil.

"DX from Europe and Africa

"Southern European and Mediterranean stations were favoured for most of the intercontinental contacts, primarily to Africa and selected parts of South America, but stations as far north as England and Germany got a taste of the DX. Among the interesting calls logged by Europeans in April were 3C5I (Equatorial Guinea), 5R8EE (Madagascar), 7Q7JL and 7Q7RM (Malawi), 9G1BJ (Ghana), A45ZN (Oman), D21AI (Angola), FR1GZ (Reunion), TR8CA and TR8XX (Gabon), TT8JE and TT8SD (Chad), V51E and V51KC (Namibia), Z21JE and Z21KA (Zimbabwe), and numerous South Africans. ZS6AXT also heard VQ9RU (Chagos) on April 1 and 6.

"The transatlantic path from South America was active during April. Doug Woolley, ZP6CW (Paraguay) found 6 metres open to Europe and Africa on several days. He worked TT8JE for a new country on April 1, 4Z5JA on April 9 (for what may have been his best DX of the month), and added 3C5I, EH6, and EH8 for new countries, bringing his total to 109. PY5CC also worked 3C5I and many Europeans, including SP6GZZ and SP6ASD, on at least 8 days. Rarer European and Mediterranean stations mentioned among the reports included 4X1RF and

4Z5JA (Israel), 5B4/EU1AA (Cyprus), CN8LI (Morocco), EK6AD (Armenia), JY9QJ (Jordan), LZ1DP (Bulgaria), OD5RAK and OD5SK (Lebanon), SU3AM (Egypt), SV9ANK (Crete), YO7VJ (Romania), and UA1WR (Russia). Those are some pretty attractive calls for Americans, who have yet to work most of those countries on 6 metres."

From **Steve VK3OT**: *"I am considering an offer to fly myself to Timiri airstrip Irian Jaya at the invitation of Phil David YB0ARA. He has offered the use of the equipment; all I have to do is fly to Thursday Island then across the Timor Sea and on to Irian.*

"It would be YB9 call area and I would try to do it at a time when both E and F2 is available, Maybe next Feb 1999. The location is Alun Alun Village, Irian Jaya, Grid square PI85ko."

Steve VK3SIX/KL7SIX/VK3OT will return to KL7 on 17/9. While there, he will make an effort to work VK between 21/9 and 21/12/98. He says to keep in mind the frequencies he mentioned previously, including DARN radar on 49.635 MHz, which was heard in VK3 last April.

New Beacon

Scott VK4JSR and **Steve VK3OT** report, courtesy V73AT, that a new beacon V73SIX now operates on 50.006 MHz from Kwajelin Atoll. Power 10 watts, antenna PAR LOOP, Grid RJ38.

Six Metre Report From Japan

02/5: 7J6CCU/JR6VSP (PL36) to 9M2NK at 1548-1550. 03/5: 7J6CCU (PL36) to 9M2KT at 0843. 05/5: 0722-0819 JA1VOK (QM05) to VK4/VK2YHN/VK7GUN. 17/5: JK7IKU (QM09) to 9M2TO at 1025. 19/5: JE1TGN (PM95) to UA0ZBK/0 (PN78) at 0820. 22/5: JK7IKU (QM09) to XX9TSS at 1205. 22/5: JA8TMP (QN12) to XX9TSS at 1311. 22/5: JR6VSP/7J6CCU (PL36) to XX9TSS at 1318. 22/5: JA1VOK (QM05) to XX9TSS at 1344. 23/5: JH2COZ (PM94) to JD1BIY(M) on 2 m at 0823 29/5: JH7LLE (QM08) to N6XQ (DM12) at 0712 for first trans-Pacific multi-hop Es this year. 30/5: JA1VOK (QM05) to UA0DX (PN68) at 1019. Note: XX9TSS (Op VR2SS/JK2PNY) was XX9AS in 1994. Result: three countries, UA0, W and XX9, are added this May for total of 28 countries in JA this year as of May 30. Best regards, **Hatsuo JA1VOK**.

"BAD List"

"Several reports have again been received from ZS/Z21/5R8/FR1 stations re QRM from Italian stations; please DON'T work the same ZS stations every day if you hear them, otherwise they will just delete you from the log and no QSL cards will be sent; they ask you please to stop the ego problem! ZS6 stations are now running a bad list (I omitted BLACK LIST). Continue to cause QRM and you will not receive a card or confirmation! BE WARNED THEY SAY! (Their request, not my view ..... give them the chance of working a new one! Furthermore, move up the band please when working Europe)."

de GJ4ICD

Two Metres to Japan

Steve VK2KFJ says that if you are interested in trying two metres from VK4 to JA, then contact Shirow JF6DEA via e-mail on *jf6dea@ja6ybr.org* and he will advise you of a station near Tokyo who is anxious to try.

Two Metres

Ron Cook VK3AFW reports that Max VK3TMP is working Gordon VK2ZAB most weekday mornings on 144 MHz around 2145, with signals usually 5x1.

"On 20/5 at 1031 I worked Barry VK3-TBM/p2, Mungo National Park, 5x1 both ways. The local weather was cool and showery. Signals were just detectable in the noise for 15 minutes before and were copiable for several minutes before sliding back into the noise. This leads me to speculate that there was some aircraft enhancement involved although short term tropo scatter enhancement is still a possibility. Distance is between 450 and 500 km. Barry was running 80 watts to a 10 el DL6WU Yagi; I was running 160 watts to a 16 el DL6WU Yagi.

"On 21/5 at 2310, Andrew VK7XR was peaking 5x8 on 144.080. Weather at both ends was cool but sunny and little wind. Andrew also worked John VK3ATQ, on 50.120 phone around 2230."

Barry Miller VK3TBM reports on his recent operating trip through portions of VK3, VK5 and VK2.

"I left home at 1950 UTC 12/5 and travelled on the Western/Dukes Highway from Melbourne to Adelaide. Equipment consisted of my FT-290R Mk1, the newly-modified DSE 80 watt amplifier, and the halo. Contacts on the way to Adelaide were as follows stating time, call, RS, my location and distance: 2045, VK3CAT, 5x9, Bacchus Marsh, 63-86 km; 2100, VK3CY, 5x3, Cardigan, 125 km; 2200, VK3AXH, 5x7, 10 km SE of Ararat, 80 km; 2220, VK3CY, 5x9, 5 km NW of Ararat, 115 km; 2236, VK3TMP, 5x1, 5 km W of Stawell, 245 km; 2255, VK3CY, 5x3, 25 km E of Horsham, 119 km; 2300, VK3TMP, 4x1, 20 km E of Horsham, 295 km; 2305, VK3AXH, 5x2, 10 km E of Horsham, 170 km; 2320, VK3TMP, 5x1-3, 5 km W of Horsham, 320 km; 2335, VK3AXH, 5x1, Dimboola, 210 km: 13/5: 0001, VK3CY, 5x1, Nhill, 178 km; 0010, VK3CY, 5x1, Lawloit, 195 km; 0039, VK3CY, 5x1, Lillimur, 220 km; 0111, VK3CY, 4x1, 20 km E of Keith SA, 280 km.

"Unfortunately, no more activity after my last contact with Des VK3CY. In SA, continued north through Clare, on to Hawker and finally Blinman in the Flinders Ranges. I last heard the Mt Lofty 2 m beacon just south of Clare. Sadly, I couldn't raise a contact on the Adelaide 6 m repeater!

"I pulled the halo off the car roof the next morning 13/5, and that was the end of two metres until I arrived at Lake Mungo National Park, NSW. On the way (19/5) I visited Randall VK2EFA, in Broken Hill.

"On 20/5 I arrived at Mungo, and was on air from 1000 to 1145. Antenna was a 10 el DL6WU Yagi, on a 4 m mast. I was set-up both evenings in the "Main Camp" QF16mg, which has no elevation benefit, and encircled by much tall plant life. My only contact was with Ron VK3AFW, at 1032. Signals were 5x1 both ways, with long and deep fades between the two peaks that allowed the contact. Distance about 498 km. I hadn't been expecting much activity on Wednesday; most responses received when I advised of my plans were for attempts on Thursday. But after half an hour of calling with absolutely nothing heard, I cannot describe how good it was to suddenly hear Ron's voice!

"Thursday night 20/5, as hoped, was busier and more successful. 1006, VK3CY, 5x1/5x3, 305 km; 1012, VK3RGL/b, 419; 1019, VK3XLD, 4x1 sent, no response; 1023, VK3TMP, 4x1 sent, no response, distance 536 km; 1044, VK3AXH, 5x1/5x2, 436 km; 1050, VK5RMG/b, 419; 1058, VK3ZGL/b, 529, 95 km; 1059, VK3FGN, 5x3/5x3, 95 km; 1108, VK2EFA, 5x1/5x4, 254 km; 1153, VK3RGL/b, 519; 1205, VK3XLD, 4x1/4x1, 490 km; 1210, VK3BRZ, 4x1/4x1, 490 km.

"Fading was noticeable again on Thursday night, but perhaps not as deep as Wednesday, or as slow; it was more obvious with the Melbourne/Lara stations than with 3CY, 3AXH, 2EFA, or the Mildura stations. I think both David VK3XLD, and Max VK3TMP, were pretty unlucky not to be successful on the first attempt. Both called as signals were rising from a trough, but the peak wasn't long enough for me to confirm that they had my RS report, or to get theirs. After those attempts nothing more was heard from the Melbourne area until David and I were successful at 1205. Sadly, I was unable to hear Les VK3ZLS, who attempted to work me after Chas VK3BRZ."

From **Emil W3EP**: *"JH4JPO reported a 144-MHz transequatorial (TE) contact with VK8VF on April 15 at 1059, according to JA1VOK. This was the first Japan-to-Australia 2-metre contact of Cycle 23. Previous 144-MHz TE contacts had been reported from Argentina to Puerto Rico and Venezuela."* [Something not quite right here as VK8VF is a beacon! .. VK5LP.]

2304 MHz EME Record

"Charlie Justinak, W7GBI (DM43am), reported a 2304 MHz EME with ZS6AXT (KG33vv) on 14 March. The 16,076 km distance easily breaks the listed world DX record for the band of 11,029 km held by W4HHK and JA4BLC since September 1994. ZS6AXT ran 70 W from a YD 1304 tube, a 0.5 dB pre-amp, and a 5-metre dish. W7GBI generated 500 W from his 802B Varian klystron to a 8-metre dish and also had a pre-amp with a 0.5 dB noise figure."

de W3EP

VK4 EME Activity

Allan Downie VK4KAZ QG62mp writes to advise of 70 cm EME activity in Queensland. He presently runs 100 watts to a bay of 4 x FO22 Yagis and an MGF1302 pre-amp.

"On 4/4 I worked NC1I (O/M) for my #1. 1/5: VE1ALQ #2 (O/M), K1FO #3 (O/M), 2/5: PA3CSG #4 (O/M), DL9KR #5 (O,O and 539). Since then conditions have not been good. No luck with my skeds to DL9NDD and W5ZN, having heard nothing from either of them. However, there has been steady overseas interest and I have a number of skeds for the end of May activity weekend."

Microwave Activity

"Brian Justin WA1ZMS/4 claimed a new North American 47 GHz DX record for a contact he made with K2AD/4 on 5 April. The pair chose a 109.8 km line-of-site path between FM07te and FM07fm in the Virginia mountains. They used 100 mW Gunn diode oscillators, with high stability frequency multipliers, and ICOM R-7000s as tuneable IFs. The antennas were 1- and 2-foot dishes. After initial contact was made, the pair carried on a 35 minute rag-chew using wide-band FM. This contact exceeds by just five km a tropospheric scatter record made 10 years ago in Oregon. They extended the record distance to 114 km on May 8/9."

de W3EP

Victoria

Alan VK3XPD reports another milestone for VK3 *"Max VK3TMP is now on 10 GHz! He came to my QTH early May for a few final checks and tweaks - these "minor adjustments" took about a half a day to complete, but at the end of it we had a QSO up/down my street. The distance I hear you ask - about 100 metres! Further next time?*

"On 27/5 we finally made it. Max went to Arthur's Seat on the Mornington Peninsula near Dromana and I went to a lookout at the back of the Dandenongs near Olinda. Initially, our QSO was established with some difficulty.

"Max could hear me over the 60 km+ path but I could not hear him. The problem was finally resolved and the obligatory numbers swapped.

"I ran a signal for Max to search around for so as to get a better feel of this new (for him) mode of operation. Between us we found that it did not matter where I pointed my dish (even vertically up behind a big rock) Max had no problem finding me "20 over 9".

"Later we will try a non line-of-site shot from home QTHs by aiming into the clouds. Once again the distance will be about 60 km. I'm really looking forward to doing a bit of "cloud bouncing" down to Somerville."

Silent Keys

Due to space demands, obituaries should be no longer than 200 words

The WIA regrets to announce the recent passing of:-

H E	WHYTE	VK2AHA
J (John)	DELAHUNTY	VK2FCW
K J (Keith)	HASLAM	VK3ACE
N C (Craig)	MCMILLAN	VK3CRA
K A	POTTER	VK5ST
E L (Ernst)	BRADSHAW	VK6EB

Harold Eugene Whyte VK2AHA

On Easter Saturday 1998 a door closed sealing forever the passion for radio that was a major part in the life of VK2AHA.

Since the 1930s as a boy growing up in the suburb of Jesmond in Newcastle, Harold already had a great thirst for the knowledge of radio and communications.

Where and how this thirst started, sadly we didn't get to ask him, but he did leave us a wonderful collection of his life's achievements from his Intermediate School Certificate in 1936 and his Wireless Telegraphy Amateur Operators Certificate of Proficiency in Morse Code in 1937.

His diploma in Complete Radio via the International Correspondence School in 1937, every letter and card he had ever received and, of course, every certificate he ever won in radio events or was awarded, have all been found in his radio shack.

From as early as 1937 he was making contact with operators all over Europe, the Americas and Asia keeping thousands of their cards as posted to him.

His early employment was with two local companies servicing radios and appliances in the Hunter Region. This was not new to the young Harold as it is known that in his early teen years he had set up a radio service in his local neighbourhood, charging two shillings per year for maintenance.

On the day Pearl Harbour was bombed by the Japanese, Harold married his sweetheart of three years. His employment would take a change of course as his radio skills were required by the Civil Aviation Department. After a few weeks at Mascot Airport in Sydney he was sent to Rockhampton in Queensland as Air Radio Traffic Controller to fulfil an obligation to the War Department. His duties were to guide US fighters into Rockhampton as well as plane loads of Japanese prisoners of war heading for internment at Cowra in NSW.

It was whilst guiding US aircraft into Rockhampton Airbase that Harold recognised a call sign on the back of an overall worn by a radio operator with the US Air Force. Immediately he knew that W6YO was Jules Wenglare, a US ham he had been speaking to since 1938 on his amateur radio station.

A firm friendship was entrenched that was to see many visits from Jules to Australia over the next 40 years. In 1976 came a visit to the US for Harold and his XYL where he was able to meet the many hams who had been regular QSOs over the past 40 years.

All amateur radio station equipment during the war was confiscated by the Post Master General's Department and held for release at the end of the war.

Now holding an interest in Broadcast Radio Stations, Harold obtained his Broadcast Station Operators Certificate of Proficiency in 1942 with the hope of furthering his career in radio after the war. Also in this year he acquired his First Class Commercial Operators Certificate of Proficiency should he need to work on board ships or aircraft.

Closure

Not many reports of local activity this month. Six metres continues to be a source of interest as contacts are made over extended distances with the approach of Cycle 23

Closing with two thoughts for the month:

1. One small boy to another: *"Of course I know the facts of life. Eat your vegetables and wash your hands."*

2. Doctor to women's-libber: *"Did you suffer from chest colds before you burned your bra?"*

73 from The Voice by the Lake. **ar**

In 1943 Harold asked to be released from his Civil Aviation duties in Rockhampton to return south as his wife's health was poor due to the tropical conditions. Most reluctantly he was released from duties. This then saw the commencement of his 40 year career with Radio 2KO Newcastle from October 1943, fulfilling an ambition to work with Broadcast Radio as an engineer, of which 10 years were spent as Chief Engineer

Harold set up his amateur radio Station again at Waratah in Newcastle at the end of the war. Having to re-build his equipment was no deterrent, but a challenge. He went on to win many world-wide contests. He also built a "Super Regenerative Receiver for 2 Metres", which he call his "SNIFFER". As well, he built a very efficient HF mobile transceiver with which he won many events in the Hunter, Urunga, Woy Woy and Gosford Field Days.

The finest example of amateur service in a National emergency yet seen in Australia was provided by NSW hams in the disastrous floods at Maitland in NSW in 1949 and 1955. VK2AHA and other hams established and maintained valuable communications for the police which resulted in a Certificate of Appreciation from the Commissioner of Police for invaluable help in a time of crisis.

Amongst his collection of memorabilia we found his Certificate of Membership of the Wireless Institute of Australia dated 23 August 1946. Harold was always wanting to help in radio and he became a dedicated helper to Ron VK2ASJ. To ensure that Ron could gain his qualification in Morse Code, Harold designed and made a foot operated key which Ron was able to master with his disabilities. This was to be an ongoing relationship that VK2AHA would not neglect, becoming a dedicated helper to Ron while giving Harold a satisfaction and pride in his skills with the power of amateur radio.

In 1961 Harold heard a May Day call from the Yacht "Kylie" caught in gale force winds on its trip from New Caledonia. He passed on the message to Rescue Authorities and "Kylie" was made safe and sound. It took some time for the owners to track down their messenger; a letter of thanks and a photo of the yacht was found with Harold's possessions.

Harold's working life was radio, and his private life was radio too, a passion that began when he built his first crystal set at the age of 12 years. The friendships he formed via amateur radio have stood the test of time covering some 60 years.

His passion led him to enormous satisfaction, knowing a job was well done and along the way, the bonus of knowing he had saved a few lives.

RIP, Harold.

Bill Hall VK2XT

Keith Haslam VK3ACE

Keith got his limited call in the middle seventies and, after numerous attempts at CW, a period during which he made many and various derogatory remarks about the necessity of brass pounding as a requirement to obtain his ticket, he succeeded in obtaining it at Camberwell Civic Centre and was on air with his full call in 1980.

He and Maurie Halkier, then VK3MKH, formed a successful business, Eastcom Communications, at Wattle Park, where any ham who was a ham, had dealings with them. They then relocated to Wantirna and, some time later, to East Ringwood. It was during the latter months of this time that Keith suffered the preliminary discomforts of his illness, and he again relocated to his home in Bayswater.

Keith's wife Jean, an accomplished Naturopath, nursed him through a progressively worsening state of health, until he was admitted to hospital several months ago where he underwent treatment for cancer. Few people were aware of how ill Keith was, as he didn't advertise the fact, instead all the time looking forward to new projects he had in the pipeline.

Eventually, even his indomitable spirit had to bow to the inevitable, and he passed away very peacefully in the early hours of 3 June 1998, with Jean by his side keeping vigil, as she did throughout the entirety of his illness.

Keith was a wonderfully generous man, sometimes cantankerous and short tempered, but always there when you needed him. He was a big man physically, as well, and his passing will leave a big hole, not just in the amateur fraternity, but in the lives of everyone who came in contact with him,

Hope they've got a good HF rig, a Pentium II, and a modem where you are, Keith. We'll e-mail you mate; I reckon the address would have to be *keith@bigshack.uphigh*.

Dave Timson VK3TD

Craig McMillan VK3CRA

Craig McMillan sadly passed away on 29 May 1998 aged 37.

Craig was actively involved in many facets of amateur radio since obtaining his Novice call in 1981 and then his Full call in 1982. He was an active fox-hunter and was on many a winning team locally as well as twice part of an Australian Champions team at Mt Gambier. He used to run JOTA stations as he was an active member of the Scouts. He also would have been heard in many contests.

In his early years of radio he was also interested in obtaining those rare overseas contacts. He used to have the rig next to the bed so that he wouldn't miss that vital contact.

To his credit Craig also actively promoted the hobby. He ran Novice classes and held regular exams. He was also very generous. If someone wanted some assistance or needed a loan of gear Craig was always the first to offer Many of us owe our licence to Craig's help.

Due to illness Craig and his family were unable to commence their long awaited round Australia trip. Cruelly, a second attempt a year later had to be cancelled a week before departure because of deteriorating health. However, Craig never lost his positive attitude to life. To the end he was cheerful and still willing to give a hand where he could. His bravery in the face of adversity is an example to us all.

Craig was a wonderful family man and is survived by his wife Jocelyn and children Kate, Haley and Scott. He will be sadly missed.

Chris VK3CHR and Mark VK3JMD ar

New WIA Members

The WIA bids a warm welcome to the following new members:

L21152	MR B L KEEGAN
L21153	MR R J TURNER
L21154	MR P TAME
L21155	MR E P AKINS
L21156	MRS L G MENCINSKY
L21157	MR M J DUNN
L21158	MR J H BAKER
L30973	MR T W SLEATH
L30975	MS J SAVILL
L30976	MR P DERNIKOS
VK2EM	MR B H EKERT
VK2JB	MR J E BAYLIS
VK2ABF	MR C E J SIMS
VK2ARC	MR M J MORAS
VK2ASU	MR J A HALE
VK2BTF	MR E BREEN
VK2EPT	MR L R PAREDES
VK2FJL	MR F J LUSA
VK2FUL	MR N C KAARSBERG
VK2GQC	MR R E NOTSON
VK2IGI	MR C J LOURENCO
VK2KJN	MR J NELSON
VK2MAX	MR G SNOWDEN
VK2MJV	MR D V MARKS
VK2MTD	MR M S DUNN
VK2TDS	MR D R SMITH
VK2TOC	MR J E CLARK
VK2TOI	MR R G KELLY
VK2VIC	MR A J VICKERS
VK2XGK	MR M CHEESEMAN
VK3JU	MR C J HOLLIDAY
VK3XN	MR N I DONCASTER
VK3CML	MR L W BRITTON
VK3DBL	MR S HAINES
VK3ZRX	MR J MORRISSEY
VK4SKY	MR J E ABBOTT
VK5ETH	MR E T HOLMES
VK7KXA	MR L JACOBSON
VK7PBA	MR D DE GROOT
VK7ZAO	MR I E K LAMBERTON

Over to You

All letters from members will be considered for publication, but should be less than 300 words. The WIA accepts no responsibility for opinions expressed by correspondents

Band Plans

A recent VK5 Division broadcast mentioned a letter from a VK5 member regarding Band Plans. This detail was also noted on packet radio.

A subsequent letter from an interstate source makes some points which I believe are worth general consideration. This letter addresses the problems encountered when "Gentleman's Agreements" are not followed. This is the letter:

"I wish to express my agreement with your comments on band plans, and to add a couple of further comments.

"In some cases the problem is due to selfishness, but it is often due to lack of information. Those who are not WIA members and/or don't buy a Call Book have little opportunity to get the details of the band plans, or even be aware of their existence and the reasons for them.

"Some amateurs do not believe that the band plans reflect actual operational realities and can therefore be ignored. The classic example is FM stations in the 2 metre SSB segment. They may not be able to hear much (or any) SSB activity (not surprising when using an FM radio and a vertical), so they assume it is not there.

"The same with beacons. Some amateurs do not realise that an interstate beacon will be perfectly audible to an SSB station even though an FM station cannot hear it.

"Regarding the comments in the letter you received on calling frequencies, amen. It is immensely frustrating to hear a weak station calling underneath local QRM - and just as frustrating to know that a weak station may be audible if only the gas-bagging would stop.

"I feel that we need a dual approach:

" More publicity for the band plans and the concept of considerate operating habits, especially amongst newly licensed amateurs; and*

" Greater willingness of more experienced amateurs to come on air when these QRM problems occur and to explain diplomatically the benefits of co-operation.*

"I also feel that three aspects of the band plans need regulatory support by inclusion in the Licence Conditions Determination (LCD):

" No FM in designated band plan SSB/CW segments;*

" No transmissions other than beacons in designated beacon segments; and*

" No terrestrial contacts in EME or satellite segments."*

I have provided this material not as a Divisional President but as an individual operator who feels that the subject matter needs to be aired to educate those who are not fully aware how orderly use of our spectrum is possible.

Ian J Hunt VK5QX
14 Dexter Drive
Salisbury East SA 5109

Amateur Radio "Over to You" Page

With the return of Bill Rice VK3ABP to the Editor's chair, there are a couple of things I want to say. The first is to acknowledge the time and effort put into the guest editorials by Jim Linton, and the second is to say "Welcome back Bill!"

I was delighted to read on page 3 of the May issue that *"a majority of Councillors thought the suspension (of the Editor) inappropriate and it was rescinded"*, and commend them for their decision. (By way of background, the same paragraph also stated that the suspension was a response to the publication of letters in the February issue, which had been deemed inappropriate.)

However, the official response from Neil Penfold on page 51 of the June issue seems to say otherwise. It implies that the Editor was somehow not suspended, and says that the reasons for having a Guest Editor *"were never given verbally or in writing"*, and that the report was in *"the Editor's words entirely"*.

Was the Editor suspended or was he not? Quantum mechanics notwithstanding, he cannot be in both states simultaneously! Besides, what has happened to common courtesy, when such a senior person is deposed from his job, and he is not even told about it?

Finally, why is it relevant that these were *"the Editor's words entirely"*? Of course they are the Editor's words, because he wrote the article!

One would have hoped that the report in the May issue, followed by the Editor's return in June, would be the end of the matter. However, Neil's letter raised new concerns, as the wording seems to convey dissent, and there was nothing to reassure us that such a debacle would not happen again.

In the VK5/8 Divisional Notes for May, Ian Hunt VK5QX *"expressed personal concern that the WIA should be seen as being honest and open in all its activities"*, and quoted a judge who said *"unless the public and business can trust each other, the whole fabric of society is at risk"*. He continued the theme in the June issue where he emphasised the need for *"the WIA to be representative of ALL amateurs"* (his emphasis), and that he hoped that office bearers in other areas of the WIA would have the same realisation. I think his views would be endorsed by virtually all WIA members.

You see, we ordinary members regard the letters page as OUR page. We do not expect that everyone will agree with us when we put pen to paper, but because it is US who fund the magazine and US who elect people to manage things on our behalf, we expect and in fact DEMAND that this right of free access be protected by those we elect, not restricted in fairly transparent attempts to protect vested interests.

We expect our contributions to be encouraged, not censored. We want office bearers who are prepared to study, discuss, and ACT UPON our suggestions where appropriate. We want office bearers who are not running private agendas, but are prepared to make the hard decisions and to work WITH us to help get the WIA out of its present difficulties, not against us.

After all, at the end of the day isn't it us, the members, who are in charge? Would someone from Federal Executive be kind enough to reaffirm the principle of free and open access to this page, by all members, and assure us that such an inappropriate and totalitarian response to the normal workings of the Institute will never happen again?

Peter Nesbit VK3AFN
24 Sovereign Way
Avondale Heights VIC 3034
pnesbit@melbpc.org.au

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WIA Divisions News

Forward Bias — VK1 Notes

Another month has come and gone, and again I must maintain a delicate balance between pre-emption and retrospection. As you may or may not be aware, this column is prepared some weeks ahead of the publication date of the magazine (in this case 11 June), the net result of this being the need for care when talking about last month's meeting (which for me is presently May - at the time of printing it will be June!)

In the retrospection department, our May meeting's buy-and-sell night was a great success. Every available table (and a few brought along by members) was full of gear and some fifty people attended and went home with goodies. I managed to restrain myself on the evening but have two FM-900s on hold (thanks Phil!) pending pickup later this month. One of these will be going to a friend of mine who has had a licence for ages but never went on air through lack of a rig. These rigs are ideal for new users, easy to drive, and well protected against incorrect antenna match and the like. Grab one before they all go!

Pre-emption wise, I expect the June meeting will have gone very well. Malcolm Brinkley, from Telstra MobileNet having been our guest speaker. Malcolm will be describing the intricacies of the digital mobile network and some of the unique problems faced by the various carriers in a country with such dispersed population centres.

On other matters, at the committee meeting earlier in the week, Mike VK1MJ, our Federal Councillor and QSL Manager, gave a brief report on the bureau's operation so far this year. A staggering 4,500 cards have been received so far this year and some 5,000 have been sent out, a record I gather for recent times.

Of interest, to both local users and operators in VK2 and VK3, was an update from Paul VK1BX who attended the meeting and gave an informal report on some of the future enhancements for the Mt Ginini site. Of note was the replacement of the long serving but nonetheless temporary Philips 828 based 2 m transmitter with a much higher powered Philips 814. This will yield a gain of some 4 dB in output power to take us to an ERP of 50-60 W. In due course it is intended to further boost this to some 120 W ERP and provide a diversity receive system. Paul indicated that the technical group are also considering 6 m and 29 MHz FM based services in the future.

In coming events, Peter VK1KEP will be giving a presentation at our July meeting (8 pm, Monday 27th) on his experiences as one of a small group of VK1 operators who spoke with Andy Thomas aboard MIR. Peter will also relate some of his experiences in dealing with the media interest that surrounded this event.

As usual, the coffee and tea will be on. Look forward to seeing you there!

Hugh Blemings VK1YYZ

VK2 Notes

Affiliated Clubs Conference

By the time you read this, the Affiliated Clubs Conference will have been held on 13 June and, by all indications, should have been a great success. At the time this went to press, 19 clubs had signed to attend the conference and that is very good when you consider there are 43 amateur radio clubs affiliated with the Wireless Institute in New South Wales.

The agenda for the conference ensured a day of subjects, providing an excellent forum for the discussion of and action on the various issues affecting our hobby of amateur radio in VK2.

Of course it moves me at this point to add that an event such as the Conference of Affiliated clubs needs a lot of organisation and this is not up to just one person, but a lot of volunteers doing their bit for amateur radio. One of these is Ken Westerman, Affiliated Clubs Officer for the NSW Division. Congratulations on a job well done Ken. I recently asked him to describe a little about the process and here is what he had to say.

"The Affiliated Clubs officer oversees a two way dialogue between the Council and the Affiliated Clubs and organises the six-monthly Conference of Clubs which is held at Amateur Radio House at Parramatta in Sydney", according to Ken.

He also said *"The best way to describe the Conference of Clubs is a meeting where the Council has matters, many and varied, presented to it. Organising the Conference is a good way to keep in communication with the clubs"*. Ken concluded that, between conferences, communication is very essential and he does this by telephone due to the fact that cheaper STD rates have made his job a lot easier and cheaper as one can communicate adequately without it costing a fortune.

Speaking of Affiliated Clubs

It was my very great pleasure to be able to visit two Affiliated Clubs in the past couple of months. First it was down to the Illawarra Amateur Radio Society in Wollongong on Tuesday, 12 May. Thank you to all who attended; it was a great evening and what an enthusiastic gathering. Darryl VK2TDS did his Automatic Packet Reporting System APRS presentation and that kept people talking till long after we were motoring our way back up the Bulli Pass toward Sydney. Thank you everybody and, yes, I will be back.

On Wednesday, 20 May it was down to the seaside around the salt air of Rose Bay to Enc VK2KUR's Club, The Waverly Amateur Radio Society, where we spent a very enjoyable few hours talking about the Year 2000 Olympics and Paralympics, and again with Darryl and APRS. This is another club which is progressive and very much prepared to exercise the basic tenets of amateur radio. Great clubhouse, too. Thank you. It was a privilege. Amateur radio is very alive and kicking. If you would like a VK2 Councillor or visitor to talk about the hobby and what can be done, do not hesitate to contact the Divisional office.

Developing Policies and Looking at the Direction of the Division

Policy and Strategy are very frightening words when you hear them mentioned, but are they necessary? It certainly is no mean task for a Committee and its Chair who says they are two very important and labour intensive features of any successful organisation.

Owen Holmwood VK2AEJ, VK2 Councillor and Chair of the Policy and Strategy Committee, became very thoughtful when I asked him about his Committee. He put pen to paper and came up with this description of his involvement. Firstly he talks about the Dural property north west of Sydney and then about Policy and Planning.

The Dural facility is a distinctive feature of the NSW Division's capacity to serve its members. Thanks to the vision of an earlier generation of amateurs, this transmitting facility on the northern outskirts of Sydney offers a prime site for HF and VHF transmission of the regular Sunday broadcasts, and an extensive range of beacon and repeater services. It also has a commercial antenna installation, for which the lessee contributes handsomely to NSW Division coffers! Despite the wide range of antennas on the site, only a small fraction of the total land area is currently in use. The main equipment building, constructed in 1957, is still waiting to be expanded to its original design of nearly three times the current floor area. The present

Council is giving serious consideration to completing the building, and bringing to fruition the progressive improvements of recent years.

Policy and Planning

There are two ways to change organisations: evolution and revolution. While the twentieth century has warmly embraced evolutionary theory as a mechanism for the improvement of biological systems, it has recklessly experimented with revolution to improve human organisations. At a stupendous cost to all involved. The WIA has seen its revolutions, and here in NSW we have still not fully recovered from the most recent.

The proponents of quality improvement have three fundamental tenets:

a. The only changes worth making to a system are incremental ones.

b. The changes should produce measurable improvements.

c. The changes should be reversible if they don't work!

And so it is with changes to our Memorandum of Association and Articles of Incorporation. Our first task is to track down the defects in the current documents, and fix them. Carefully. After seeking submissions via the broadcasts earlier in the year, the Policy and Planning Committee is convening at the end of June to consider a range of proposals. From this meeting, and perhaps several which will follow, members can confidently expect to get several recommendations which, if implemented, will improve the ways in which the NSW Division serves the interests of its members. We may even be able to initiate worthwhile improvements which don't offend anybody! Hope springs eternal! Those wonderful words came from VK2 Divisional Councillor Owen Holmwood.

Post Office Box

There are many members in New South Wales who are benefiting greatly by the special post box which has been made available for those amateurs to use as their postal address for amateur radio related mail. This of course is a service to licensed amateurs (members of the NSW Division of the WIA) who do not wish to have their personal address published by the ACA on the Internet. If you are interested, please contact the Divisional office.

Internet Page for the VK2 Division

You might have seen the great job Richard Murnane VK2SKY has done with the NSW Divisional World Wide Web page. The address is *http://marconi.mpce.mq.edu/wia/*. The site, which Richard has worked extremely hard to build and maintain, contains loads of amateur radio related information with links to other WIA web pages right around the country, news, and contest information. Pay it a visit soon. The pages are hosted courtesy of Macquarie University's School of Mathematics, Physics, Computing and Electronics.

For More Information

For more information, contact the office or any of the Councillors. We will be only too pleased to hear from you. If you would like to get in touch with an individual Councillor, just contact our Divisional office and it will be arranged. Our freecall phone number is 1 800 817 644 and our address can be found on the WIA Divisions' page. If you are addressing email to the office, please do so at *vk2wi@ozemail.com.au*. There'll be more to report next month, but if you have anything you would like us to include as VK2 news, send it to me at PO Box 82, Springwood NSW 2777 or by email to *dthom@penrithcity.nsw.gov.au*.

David Thompson VK2NH

WIA Victoria News

WIA Victoria AGM

The annual general meeting of WIA Victoria was held on Wednesday, 27 May, mainly to deal with the statutory requirements set out under Corporations Law, the adoption of reports, and to appoint the auditors.

It was announced at the meeting that one of our members had won a major prize in the WIA membership recruitment and retention drive. Joe Jannke VK3AU is now the proud owner of a Kenwood VHF/UHF duo band rig.

In a special presentation, Dr Tuck Choy VK3CCA was presented with the *Amateur Radio* 1997 Technical Award certificate and $100 cheque for a technical article judged by the WIA Publications Committee to be the best.

During the discussion session of the AGM, members heard about the substantial capital investment made in the new VK3BWI broadcast facility.

Council is still hopeful of having more than one broadcast a month, but this depends on suitable volunteers being available, and more contributed news material from clubs and individuals.

Interesting Times, Indeed!

Two recent developments in Europe are worth serious consideration by anyone concerned about the future of our hobby.

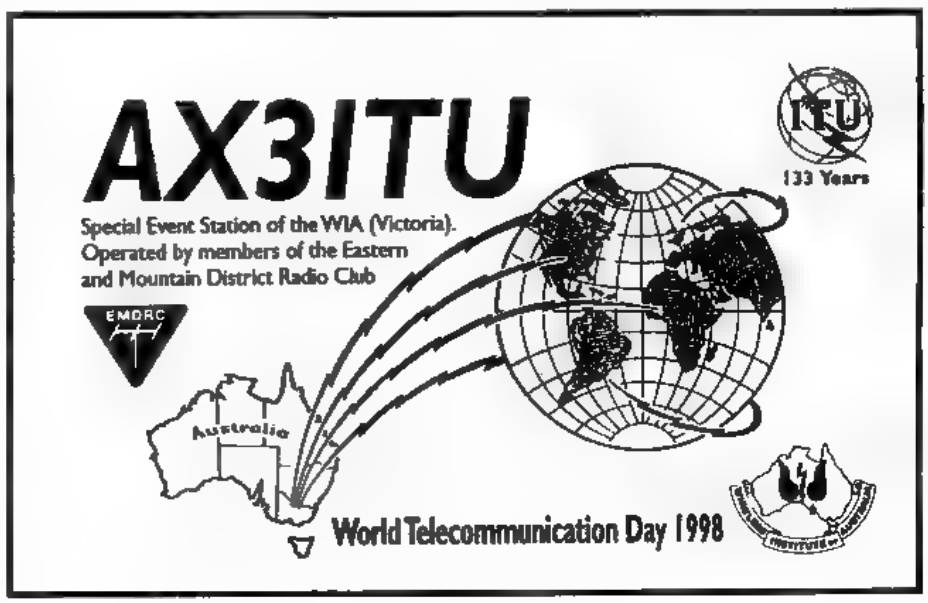
The first is the move by the Radio Society of Great Britain (RSGB) to drop the mandatory Morse code proficiency requirement for access to the amateur HF bands.

The other is the introduction in Germany of a learner licence scheme which allows the operation of amateur stations by unqualified persons.

Both developments have a common theme. They are policies of IARU member radio societies to redress the decline in our hobby, and make it more attractive and accessible.

The RSGB is seeking a reduction from 12 wpm to 5 wpm for full HF band privileges in Britain, and through the IARU is urging the abolition of the mandatory Morse code requirement.

WIA Victoria will be guided by the wishes of its members on the issue. The last member survey on the code requirement found support for its retention. Another survey is certain to be held in the next 12 months or so.



AX3ITU 1998 - Steve VK3DBL operating and working a very large 20 m dogpile, long path to Europe. ***(Photo by Jack Bramham VK3WWW)***

Germany's national radio society, the Deutscher Amateur Radio Club, has announced a program under which aspiring radio amateurs can operate "learner permit" style amateur stations. A similar system existed in the former East Germany.

It means that a radio amateur can apply to set up an instructional station for a prospective radio amateur to operate. The rules don't require the licensee to be in attendance to directly supervise the operation.

World Telecommunications Day Update

The special event callsign AX3ITU was activated by nine operators on World Telecommunication Day, Sunday 17 May, who made 436 contacts including 51 countries.

The callsign is issued by the Australian Communications Authority to WIA Victoria, which invited the Eastern and Mountain Districts Radio Club to put it on air

The activation of nearly 18 hours was a sterling effort. The operators, including two using CW, were willing to stay on air for the maximum 24 hours, but the lack of DX propagation stopped them.

Among the contacts made were those with other World Telecommunications Day stations AX2ITU, AX5ITU and AX6ITU.

New life for VK3RTV

The Melbourne ATV repeater is to be completely refurbished. The WIA Victoria Council has agreed to finance this project which is to be completed in four stages. The project management will be undertaken by Peter Cossins VK3BFG and work is to commence immediately.

Jim Linton VK3PC

VK5 and VK8 Notes

A Soliloquy

Over the last week or so I have had reason to think upon matters in general which can play a major part in one's life. Almost inevitably very personal feelings become involved when such consideration is in progress. This morning I stood on our front porch with my wife and gazed at a brilliant sunrise. So, what has this to do with amateur radio?

There are wonderful things which we can encounter in our lives. These can include tangible and intangible things such as a sunrise or sunset, the love of one's family, the sight of a beautiful landscape or plumage of a brilliantly coloured bird.

When we encounter things which touch our hearts we find that we are obtaining benefit from them. Pleasure results from incidents such as these.

My thoughts turned to the pleasure which I have obtained from amateur radio over the years (I gained my licence in 1959). I look back to those early days (for me) as an amateur radio operator and still gain great pleasure from the many memories which I have. Great contacts, fun at "hamfests", new friends made both locally and internationally. I have been blessed with the opportunities where many of these people have visited my home and where I have been able to visit theirs. The list of benefits from these amateur radio connections could go on and on.

But, does this only apply to looking at the past? The answer is a definite "NO!" I see amateur radio now as offering just as much pleasure and benefit as ever it has. There are exciting things happening in the world of technology and we are in a prime position to gain much from these developments.

There are some who are very capable on a technical basis and others who must follow the lead and be guided. All of Amateur Radio can benefit as a result.

I see very often what appears to be doom and despondency within our ranks. We are told that the hobby is dying, that youth are not interested, that the Internet has taken over etc, etc.

Well, I for one, do not accept that all this is so. I have a plan to help turn all this around and that plan is for us to "HAVE FUN" within our hobby. Enjoy the experiences just as we have done over the past years (boy, it must have been exciting for Gughelmo Marconi!).

We can show our hobby as being interesting and fun by enjoying it ourselves. In this way it will become evident to onlookers that here is something well worth while. Such a picture is more likely to interest them in amateur radio.

A plan like this that implies neither we, nor our fellow amateur radio operators, will enjoy what we are doing if we are involved in nastiness, selfishness, backbiting, and other unfriendly and anti-social actions towards others in the hobby. It cannot be fun when such things happen.

I believe this has been occurring within our organisation. Yes, there is a need for us to be on guard against outside influences which would reduce our privileges; however, we need to be aware that to take ourselves too seriously is to risk our "fun" hobby. Co-operation and a willingness to get along with others is of paramount importance.

Well, so much for what might be seen as a sermon. However, I felt that it was necessary to express some of these thoughts. Perhaps some readers might figure this out further for themselves.

Andy Thomas VK5MIR

Andy Thomas will by now have "come down to earth" having had to undergo all sorts of tests and de-briefings as well as a recuperation period as a result of his time spent in a zero gravity environment. No doubt many tales will be told of what took place while he was in space.

I have one true story which may be considered to be really "way out!"

My father-in-law Charles, then 80 years of age, came from the Island of Anglesey, off Wales, to live with us just over 4 years ago. For a long time he was quite puzzled as to any benefit at all that could be derived from my hobby. He saw little or no value in it.

However, after Andy Thomas went into orbit he began to take a great interest, particularly when he learned that I was speaking with an astronaut from time to time.

He would ask me, *"How is our lad going up there?"* and tell people at his Dance Club about it.

It so happened that Charles died suddenly on 2 June. As a result of this happening I was not in a position to keep up my regular contacts and I was informed that Andy had been looking for me. I sent a packet radio message to MIR explaining the situation. On my next voice contact with VK5MIR, Andy expressed his condolences and asked me to pass his sympathy greetings to my wife, Sylvia. She and I then commented almost simultaneously that Charles would have been delighted and absolutely thrilled to know that the news of his death had been passed to a "Space Station" and then remarked upon by an astronaut. Believe it or not, both my wife and I were actually buoyed up by such a thought.

It also happened that later, when asked in an interview on an ABC Radio program about talking to Andy Thomas about personal things, I retailed that same story, thus spreading further the news of Charles' passing. Amazing! The power of communications in this day and age (something to think about!).

I trust that these personal glimpses into the thoughts of VK5QX might have been of interest to you.

Next month I hope to have for you details regarding the final results of Council elections and perhaps a brief resume of the Public Relations efforts performed by Andy Thomas from space.

Ian Hunt VK5QX

VK6 Notes

Hi again folks, hope you've had some serious rain lately. Starting to turn green here in Toodyay, and the Avon is filling slowly, but not flowing as yet (as of 7/6)!

The Last VK6 Division General Meeting?

The May general meeting was the last to be held for the foreseeable future, due primarily to the inability over the last 12 months to obtain a quorum. Monthly General Meetings will no longer be held, a practice followed by several other Divisions. There will be emphasis on the twice yearly "Conference of Clubs". Monthly Council meetings will continue at which visitors will be welcome. The Annual General Meeting will occur as usual.

There are a great many members who, for various very good reasons, cannot attend Divisional meetings (of whatever ilk), but who are nevertheless concerned or interested in proposals discussed and outcomes reached at these meetings. I would strongly support the instigation of some sort of on-air "parliamentary style" question time, presided over by at least a couple of the Councillors. This would provide valuable feed-back to our elected reps and is also more democratic. After all, we are uniquely placed in that we ALL have radios and COULD use them to have our say.

Search for Communal Facilities

The search for a shared site, buildings, etc is underway, with Whiteman Park the initial candidate. I tried to find this site but got lost in the Park! The Park itself has good access from main freeways.

My own feeling is that we will find it very hard to find a geographical location that suits the majority of members, wherever we look, and that this is just symptomatic of the problems we face in centralising all activities in one large group. It is essential that a permanent facility is not established in a location to which amateurs are not prepared to travel.

Now is the time to have your say, otherwise you will not be in a good position to complain later if you find the final choice unsatisfactory. And we will all certainly be the poorer for your absence. It is YOUR money being spent! Details for comments to Keith VK6XH once again are: e-mail to *vk6wia@faroc.com.au*. Alternatively, I'm sure any Councillor will forward your thoughts to Keith (you could call one on your radio!).

Operating

I was in ZL in May for a few weeks, and took the opportunity to catch up with several old friends via the National System, which links almost the entire country on UHF. It was especially useful as all I carried was a hand-held, and yet I was able to catch up with friends 400 km away with 1 ½ watts!

I have to say that I am extremely envious of this set-up, and would dearly love to see the existing VK6RUF system extended to cover the whole of the South-west (we've got one or two hills here too!). Opposition to this from some country areas stems from concerns about losing the existing purely "local" repeater facility. In ZL, almost all Branches (of NZART) also have at least one other "local" repeater which can be accessed, so the problem doesn't arise.

When was the last time you heard a CQ call on 80 m? I tried recently (for 20 minutes one evening – full wave loop, 100 W), and failed to invoke a response. Most of the activity (faintly) heard was coming from the East Coast. We are severely disadvantaged, it seems, by the time difference between us and the rest of VK/ZL. Is there an alternative band which could bridge the "time-gap"?

Whenever I have found someone to talk to on the 30 m band, I have been impressed by the stunning signal strengths noted on interstate contacts. The band seems ideally suited to spanning VK (in ZL with the smaller distances involved, the 40 m band is the daytime "rag-chew" band). Perhaps we could get the ball rolling on 10 MHz by initiating a regular net, or has this been tried before? I would be interested in your comments or further suggestions?

Try me on air after the WIA call-backs on 3582 kHz, or on any other day at +/- 0740 local on 3575 kHz (or *chrismor@avon.net.au*).

From the Minutes

June meeting: SEG are seeking to make frequency changes to the VK6RTW beacon to 50.308 and 144.564 MHz. Advice to Federal about the appointment of Will VK6UU as Federal Councillor and Bruce VK6OO as Alternate Federal Councillor was approved.

Reports: An invoice for $779.21 has been provided to Federal covering reimbursement for expenses relating to the HF Beacon. Two new members were welcomed. Work is proceeding on the Augusta and Exmouth beacon projects.

General. Wal VK6KZ drew attention to a move by the RSGB to have the Morse

Barry Hill VK7BE being presented with the 1997-8 Meritorious Service Award by VK7 Division President Ron Churcher VK7RN at the AGM on 21 March 1998.

requirement reduced to 5 wpm for licensed operation below 30 MHz. Tony VK6TS raised the subject of Australia joining the CEPT licence scheme. No progress yet by Worksafe on tower climbing requirements. Keith VK6XH advised that he had had only two replies to the circular letter to Clubs about the Whiteman Park project. Prior to appointment of a new Division President, Cliff VK6LZ, as Vice President, is in the chair. An appeal for more operators to handle the re-broadcast of the "Newsline" service was issued.

Chris Lowe VK6BIK

"QRM" News — VK7 Notes

ACA Listening Station Visit

High up in the hills to the north-east of Hobart, the ACA operates their main listening station for south-east Australia. Normally a high security area in charge of an old friend of amateur radio, Dave Thorne, all was revealed to twenty lucky Southern branch members in early June when a visit was arranged.

The members were astonished at the array of sophisticated equipment demonstrated; you name it, they've got it! The massive antenna farm keeps tab on events world-wide. The writer is keeping his fingers crossed that he can wangle a visit himself when next down south!

Central Highlands ARC

Perhaps the biggest actual amateur radio CLUB in Tasmania (106 members) is the Central Highlands ARC, principally made up of those odd people who love to throw a funny looking thing they call a "fly" into some water and pray that a big trout will be tempted.

To get the "Tassie Trout Award", and gain double kilogram points, hams need to contact Club members over the weekend of the 3-4-5 July on 3.585-3.590 MHz (nights) or on 10 and 15 metres (daytime) and need to catch 14 kg of trout (seven contacts). At other times look for members on 3.585-3 590 MHz most nights to catch single trout. 50 contacts give you a gold award, 100 a platinum award. When you contact them, members will give you all other details.

Membership Drive

The Tasmanian Division is very pleased with the results of our membership drive with new members being signed up each month. For more information from the State of progress look at out Website *www.wia.tasnet.net*.

Ron Churcher VK7RN

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Club News

Blue Mountains Amateur Radio Club

The Blue Mountains Amateur Radio Club held its Annual General Meeting on 1 May 1998.

A new team was elected as our office bearers with unanimous support of the members present.

Our Honorary Secretary, Treasurer and Magazine Editor, were re-elected for a further 12 months. All the outgoing office bearers carried out their duties effectively for the past year and their efforts were very much appreciated.

The new officials are: President, Phil Derbyshire VK2GPB; Vice President, Greg Arrell, Secretary, Guy Fletcher VK2BBF; Treasurer, Mike Bermingham VK2KVC; Education Manager, Neil Fallshaw VK2XNF; Repeater Manager, Adrian Clout VK2BFN; Magazine Editor, Kevin Purves VK2MNU; Historian, Dan Clift VK2DC; Net Manager, Derek Reed VK2UM; Catering Manager, Neil Fallshaw VK2XNF; Property Manager, John Watt VK2QN; Committee Members, Dave Barry VK2IH, Eoin Milne VK2WCR and Neil Fallshaw VK2XNF; Fox Hunt Manager, Dan Clift VK2DC; and Publicity Manager, Greg Arrell.

The Club meets on the first Friday of each month at Springwood High School, at 8:00 pm. Entry is via the Chapman Parade gate, then turn into the top car park and walk down the path and steps to the first classroom (the one with the lights on).

Visitors are always welcome. Anyone wishing to find out more about the hobby of amateur radio may come along or contact Guy Fletcher on 02 4751 6449, or Greg Arrell on 02 4739 8895, 0411 025 791 or *greghome@fastlink.com.au*

Greg Arrell
Vice President/Publicity Officer

Liverpool and District Amateur Radio Club Inc

The Liverpool and District Amateur Radio Club will be holding its annual auction at the Scout Camp in Cambridge Avenue, Glenfield, commencing at 11.00 am on Saturday, 18 July 1998.

The Club's famous sausage sizzle will again be there as well as cool drinks, hot tea and coffee.

The auction check-in time will be 1000 hrs and the auction proper will commence at 1100 hrs. The auctioneer will again be the inimitable Dave VK2KLV

Enquiries can be made to 02 9896 5763, or via packet on 144.875 to either VK2IFS or VK2TKB @VK2TGB.#SYD.NSW.AUS.OC. The message should be titled LADARC.

Garry Barker VK2TSR
Honorary Secretary

Urunga Convention

What happened at the 50th Urunga Radio Convention over the Easter weekend of 11 and 12 April 1998?

The day was bright and clear, the doors of the Urunga Senior Citizens Hall opened at 8.45 am and registrations started. The pace was fast and furious as details were recorded and name cards filled in.

The first event of the weekend, a 7 MHz hunt, was not contested. Next there was a pedestrian event with three transmitters on 146 MHz. The winner was VK2BYY followed by VK2HJJ.

The next event on Saturday afternoon was a three transmitter 146 MHz mobile hunt. The transmitters were hidden in the Newry State Forest. First to the sites was VK2DGT, followed by VK2BYY. The two committee members who went out to collect the transmitters after this event lost them and a search party had to be sent out to locate the missing units, or wait for twelve hours for the RF-proof timing devices fitted to the transmitters to come to life again. The missing gear was found after the last event for the day, which was a talk in won by VK2BYY from VK2BAM.

There was a happy gathering of amateurs at the Ocean View Hotel for the dinner which started at 6.30 pm

A brief welcome and history of the convention was given by VK2ZCQ (who has not missed a convention since 1952) and his XYL Marie

In attendance were two of the amateurs who attended the first convention at Urunga in 1959. Alf Webb VK2UC and Leith Martin VK2EA gave the assembled audience a description of what the early conventions were like.

On Sunday morning the competitors fired up for the coming challenges of the day. The Urunga Scramble was won by VK2FA. VK2BYY won a pedestrian hunt on 7 MHz transistor radios only

VK2HJJ won the mobile hunt with three transmitters on 146 MHz hidden in the Newry State Forest.

After lunch VK2BYY won a three transmitter pedestrian event from VK2DGT. A fun event talk-in was then run to finish off the day with two foxes to be found. VK2URK was the winner. Then came afternoon tea and the prize giving.

The next convention in 1999 will be the 50th birthday of the Urunga Convention, so come along and help in the celebrations.

VK2ZCQ
Urunga Committee

North East Radio Group

The NERG annual dinner was held at the Abbey restaurant in Diamond Creek on 22 April 22. Good food, good wine and good stories were all in abundance.

A highlight of the evening was the drawing of our door prizes.

The magnificent first prize was a two band Icom T7A transceiver most kindly donated by Duncan and Neville of Icom Australia. Thank you Icom! The T7A was won by well known fox hound Greg Williams VK3VT.

Second prize of wine, rose bush and "Mothers Night Off" free pizzas was won by Sue Renn, XYL of Bruce VK3JWZ. Congratulations Sue and Greg.

Over the next few months the NERGs will be visiting the Simpson Barracks Army Radio Museum, going on a family fun bike ride and taking part in the new ARDF competition starting on 22 August.

We are running Novice courses and welcome all amateurs, old and new, to our meetings held at St Helena Secondary College on the second Thursday of each month.

Remember, you can catch a NERG on 146.675 MHz FM simplex. We look forward to your contact.

Don Haslam VK3MDT

WIA (VIC) Eastern Zone Radio Club (Inc)

Inaugural Gippsland Technical Conference - 11 to 12 July 1998

With the view to promoting technical development and the sharing of knowledge in the areas of VHF, UHF and microwave amateur communications, the Eastern Zone Amateur Radio Club is sponsoring a technical conference. A variety of knowledgeable speakers will present information on aspects of amateur communications above 50 MHz, with an emphasis on weak signal operations.

Confirmed topics to date include: Receiver system noise and design long boom Yagis for 50 MHz; Meteor scatter propagation; and equipment for 10 GHz SSB

Possible topics (to be confirmed) include: EME Communications; Comet Shoemaker-Levy, and How to Predict Tropospheric Ducting.

Space exists in the program for further speakers. The Conference will discuss technical matters only. Session Chairs will not tolerate the intrusion of politics!

The conference will be held at the Monash University Gippsland Campus, Churchill, located approximately 170 km east of Melbourne in the Latrobe Valley. Travel time from the Melbourne CBD is typically less than two hours, predominantly travelling on divided freeway-standard roads.

Proposed Program, Saturday, 11 July: 10.00, Registration; 10.30, Session 1 commences, and Partners Tour departs (if sufficient interest);13.00, BBQ lunch (included in registration fee); 14.00, Session 2 commences; 16.30, Session 2 concludes; 19.00, Informal Dinner at a local Restaurant (details TBA - individuals to pay).

Sunday, 12 July 12: 10.00, Session 3 commences (if warranted); 12.00, Session 3 concludes; 12.30, BBQ lunch followed by Power Station Tour (if sufficient interest); 15.00, Conference close.

Overnight accommodation at Monash University can be arranged, at an estimated cost of $20 per person. Individuals taking up this offer will need to provide their own linen and breakfast. Alternatively, participants can utilise any of the excellent local motels. A registration package will be forwarded to those who express interest. If you require any addition information, please indicate the nature of the information required in your Expression of Interest.

Activities on Sunday will be dependent upon interest, and may incur additional cost. If there is sufficient interest, a Proceedings volume will be published, at a cost to cover production.

If interested, please contact Peter Freeman as soon as possible at: PO Box 273, Churchill VIC 3842, *peter.freeman@sci.monash.edu.au*, VK3KAI@VK3BVP.#SEV VIC.AUS.OC; or the Web Page *http:\\www-mugc.cc.monash.edu.au\~pfreeman*

Peter Freeman VK3KAI

Update

Corrections to previous issues of Amateur Radio magazine

Repeater Link - DTMF Code Options

(published on page 21 of Amateur Radio, June 1998)

Will McGhie VK6UU has pointed out that when we redrew his Fig 1 for publication, we accidentally substituted OR gates for the correct AND gates. The corrected Fig 1 appears above. It might be a good idea to amend your copy of the June 1998 issue of *Amateur Radio* now.

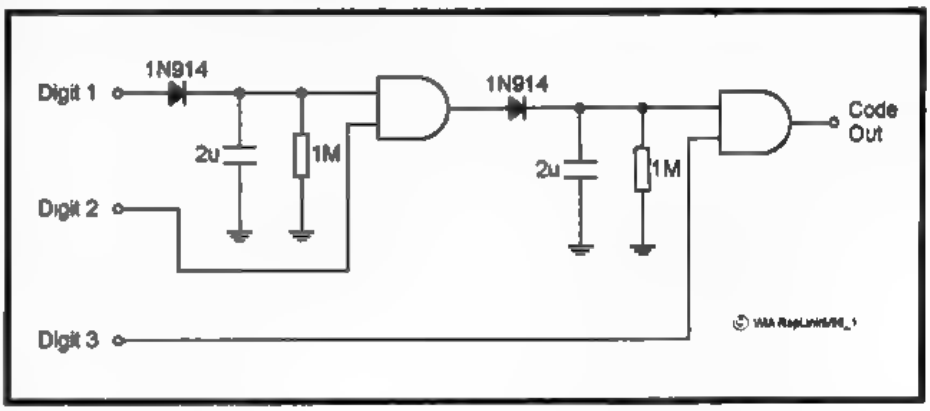


Fig 1

WIA News Item - WRTC-2000

(published on page 5 of Amateur Radio, June 1998)

David Pilley VK2AYD, the supplier of this news item, realised when he read his June copy of *Amateur Radio* that he had the WRTC-2000 event taking place in the wrong country!

WRTC-2000 will not take place in Croatia, but in **Slovenia.** Please amend this news item in your copy of the June 1998 issue of *Amateur Radio* magazine by replacing each occurrence of Croatia with Slovenia.

HF Predictions

Evan Jarman VK3ANI

T Index: 79

Frequency scale: UD, F-MUF, E-MUF, OWF, ALF, Best band

Time scale

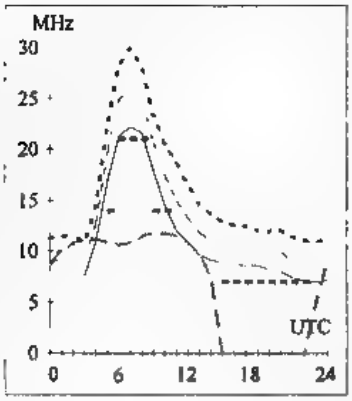
These graphs show the predicted diurnal variation in key frequencies for the nominated circuits. They also nominate the best amateur band for communication.

The frequencies, identified in the legend, are:-

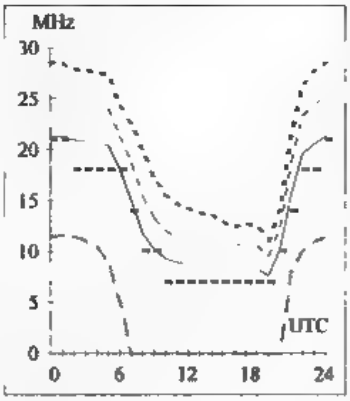
- Upper Decile (F-layer)
- F-layer Maximum Useable Frequency
- E-layer Maximum Useable Frequency
- Optimum Working Frequency (F-layer)
- Absorption Limiting Frequency

The predictions were made with the Ionospheric Prediction Service program, ASAPS v3.2. The T index used is shown above the legend. The Australian terminal azimuth, path and propagation mode are also given for each circuit.

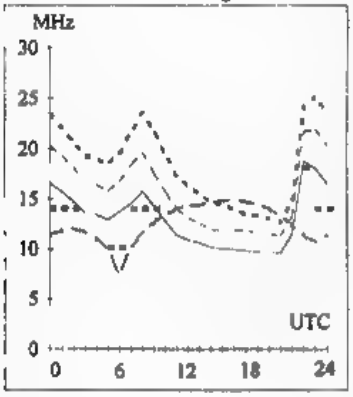
Adelaide-Johannesburg 237
Second 4F5-6 4E0 Short 10042 km



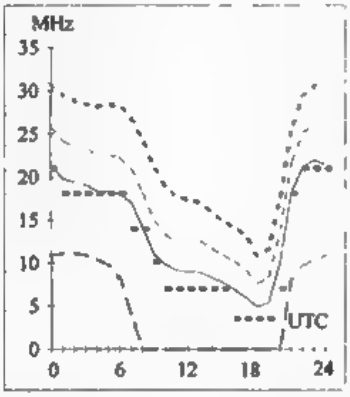
Brisbane-Christchurch 141
First 1F5-6 1E0 Short 2517 km



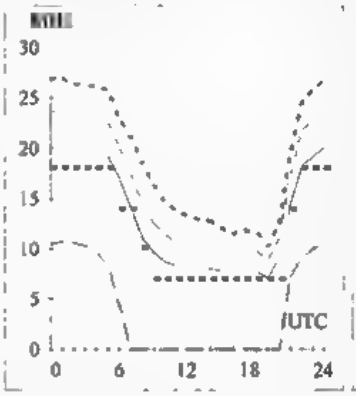
Adelaide-London 132
First F 0-5 Long 23755 km



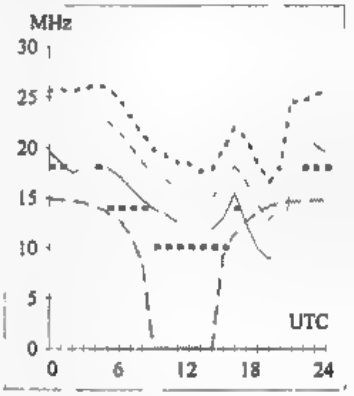
Brisbane-Honiara 21
First 1F7-10 1E0 Short 2131 km



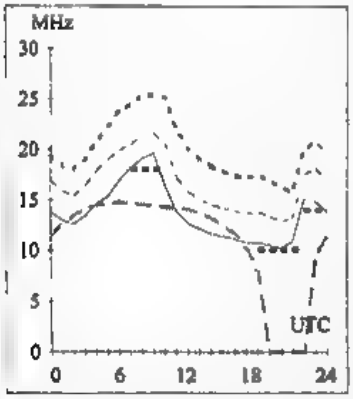
Canberra-Auckland 102
First 1F6-9 1E0 Short 2300 km



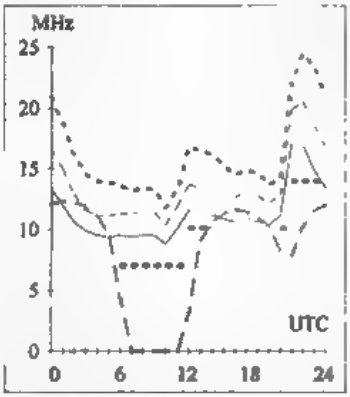
Darwin-San Francisco 54
First F 0-5 Short 12316 km



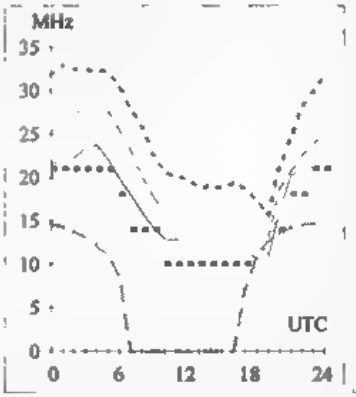
Adelaide-London 312
First F 0-5 Short 16269 km



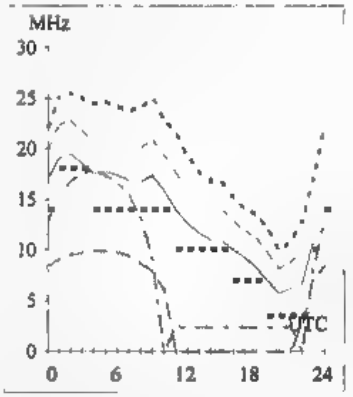
Brisbane-Montevideo 154
First F 0-5 Short 12431 km



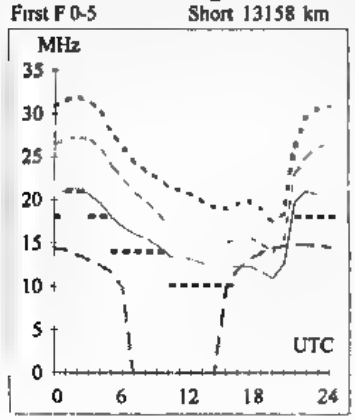
Canberra-Honolulu 50
First 3F3-7 3E0 Short 8407 km



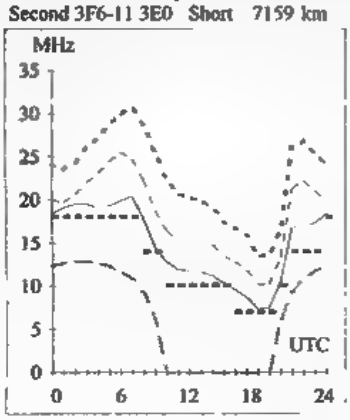
Darwin-Singapore 295
Second 2F12-20 2E2 Short 3351 km



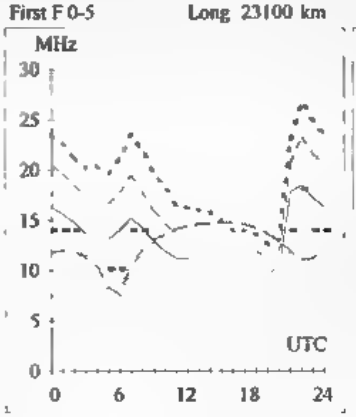
Adelaide-Los Angeles 66
First F 0-5 Short 13158 km



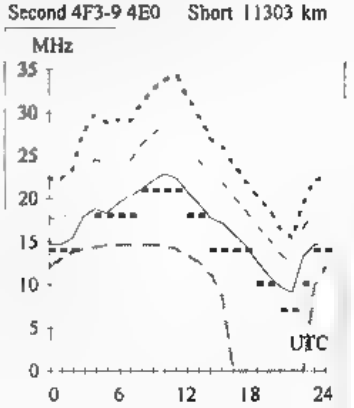
Brisbane-Tokyo 348
Second 3F6-11 3E0 Short 7159 km



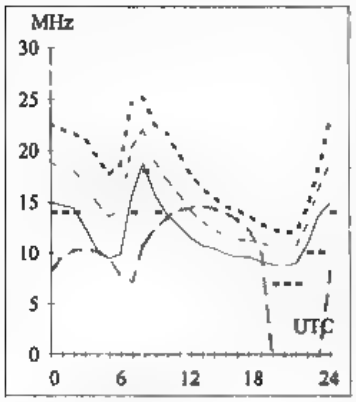
Canberra-Paris 130
First F 0-5 Long 23100 km



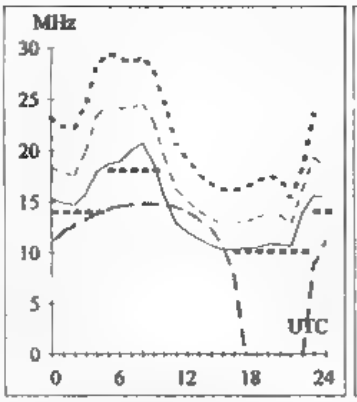
Darwin-Tel Aviv 301
Second 4F3-9 4E0 Short 11303 km



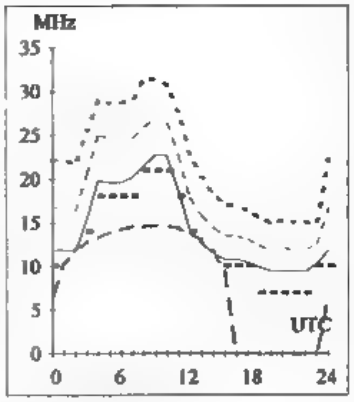
Hobart-Dakar 209
First F 0-5 Short 16556 km



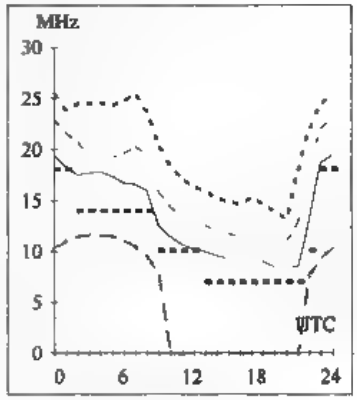
Melbourne-Athens 289
First F 0-5 Short 14950 km



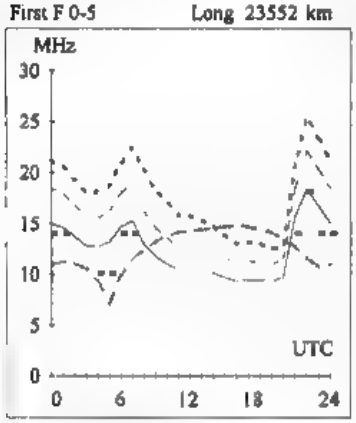
Perth-Cairo 298
Second 4F3-8 4E0 Short 11263 km



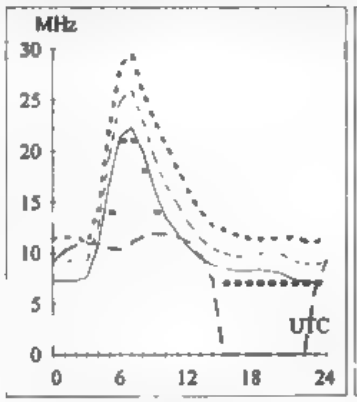
Sydney-Manila 324
Second 3F9-14 3E0 Short 6263 km



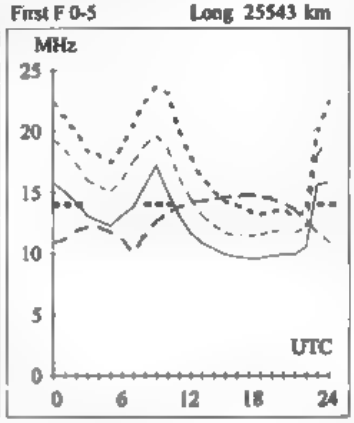
Hobart-Berlin 124
First F 0-5 Long 23552 km



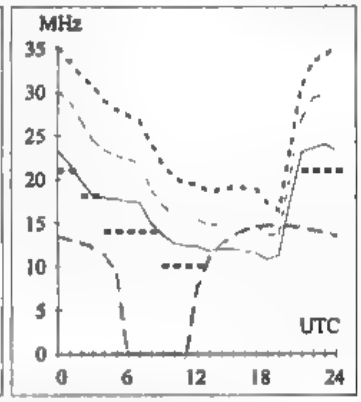
Melbourne-Pretoria 234
Second 4F4-5 4E0 Short 10352 km



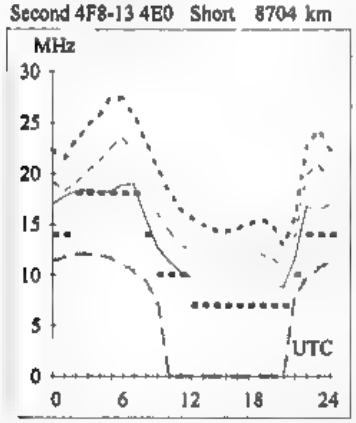
Perth-London 133
First F 0-5 Long 25543 km



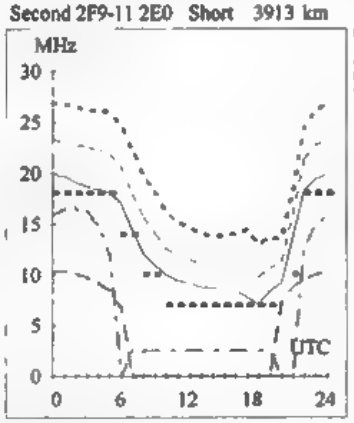
Sydney-Miami 86
First F 0-5 Short 15027 km



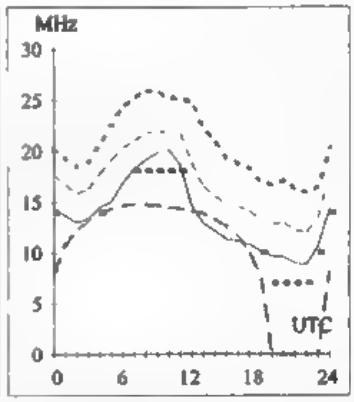
Hobart-Osaka 350
Second 4F8-13 4E0 Short 8704 km



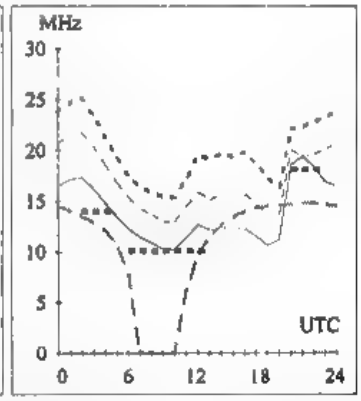
Melbourne-Suva 65
Second 2F9-11 2E0 Short 3913 km



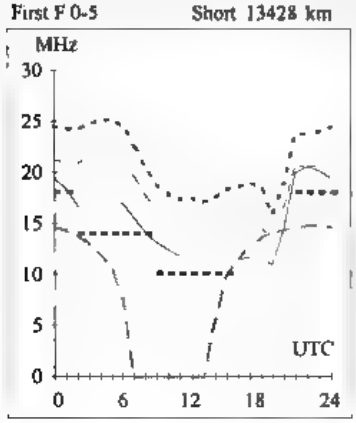
Perth-London 313
First F 0-5 Short 14481 km



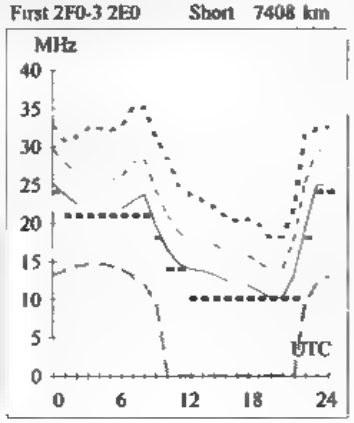
Sydney-Ottawa 58
First F 0-5 Short 15864 km



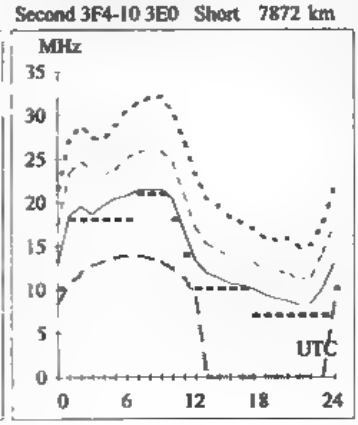
Hobart-Vancouver 49
First F 0-5 Short 13428 km



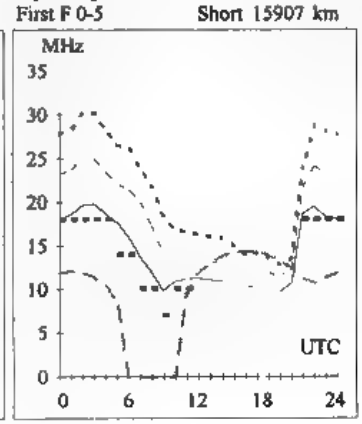
Melbourne-Taipei 337
First 2F0-3 2E0 Short 7408 km



Perth-New Delhi 325
Second 3F4-10 3E0 Short 7872 km



Sydney-Surinam 133
First F 0-5 Short 15907 km



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● **HAM LOG v.3.1** - Acclaimed internationally as the best IBM logging program. Review samples. AR: "Recommend it to anyone" The Canadian Amateur: "Beyond this reviewer's ability to do it justice. I cannot find anything to improve on. A breakthrough of computer technology" ARA: "Brilliant" Simple to use with full help, the professional HAM LOG is immensely popular (now in its 5th year), with many useful, superb features. Just $59 (+ $5 P & P), with a 90 page manual. Special 5 hour Internet offer. Demos, brochures available. Robin Gandevia VK2VN, 02 369 2008 BH, fax 02 369 3069. Internet address rhg@ozemail.com.au.

FOR SALE ACT

● **3.8 m dish with C-Band linear feed** and 85° k LNA, suitable satellite TV, good condn, transportable on standard box trailer, currently stored in ACT, swap for 2 m or 70 cm txcvr. Neil VK2EI, 5 Loloma Place, Port Macquarie NSW 2444, 02 6584 9162 any time.

● **Hewlett Packard 851B/8551B spectrum analyser**, 0.01-12.4 GHz, $350. **Marconi TF2300B FM/AM mod meter**, $245. **Heathkit SB-620 monitor**, $100. Ed VK1VP, QTHR, 02 6249 6348.

FOR SALE NSW

● **Galaxy DGT400 satellite digital receiver**, new in box, instruction book, ready for immediate use, $480 ONO. Peter VK2BPO, QTHR, 029713 1831, *bruno@jigsaw.net.au*

● **Alden (made in USA) SW/HF receiver**, 100 kHz to 29.999 MHz in 1 kHz steps with fine tuning, LSB and USB, 12 V and 24 V DC, or 100 to 240 V AC operation, box is size of Epson FX80 printer, originally a dedicated weatherfax receiver, receiver and fax printer fully operational but paper obsolete, audio output via speaker or jack plug, $250. Ted VK2EZQ, QTHR, 02 9477 7834, 019 460 437

● **Yaesu FR-101** receiver, digital, fully optioned, 1.8 to 148 MHz, manual, good condn and working order, $300. **Yaesu FT-75B**, 11 xtal frequencies, AC supply, DC supply, mobile mounting bracket, manual, good condn and working order, 80 to 10 metres, no WARC, $100. Ray VK2COX, QTHR, 02 6345 1911

● **Icom IC-746** HF + 2 m txcvr, inc desk mike, 6 months old, as new in box, $2150. James VK2LJN, 0412 242 024.

● **Yaesu FT-736R** 25 W 2 m/70 cm all mode txcvr, complete with in-built PSU, DC power cable, mic, manuals, excellent working order, used three months only, two year warranty, $1700 ONO. A Wettasinghe VK2IHV, QTHR, 02 9876 2814.

● **Kenwood TS-820S** txcvr, telereader RTTY/CW, multi-band vertical antenna, power meter, coax, $650 ONO. H Pickett VK2AHP, 02 9746 6858.

● **Kenwood TS-900** SSB txcvr with PS-900 matching PSU, original mic, manual, SWR meter, excellent condn, $200 ONO. Lorraine Mencinsky L21156, 02 9953 1245, *starpaws@ozemail.com.au*

● **HP Vectra PCs**, 1 of 486, 7 of 386, 1 of 286, various configurations, price range of $250 to $35. John VK2WW, 02 9546 1927.

● **Yaesu FT-736R** VHF/UHF base station txcvr, 2 m, 70 cm and 6 m module fitted, full satellite operation, VGC, $1650. **Yaesu FT-101E** HF SSB/CW/AM base txcvr, 100 W, VGC, $400. Chris VK2YMW, QTHR, 02 9487 2764 (AH).

● **Kenwood TS-850SAT** with DRU2 + voice units, SSB and CW filters, MC-60A desk mic, DSP100 unit, SM-220 station monitor with pan display unit, all in excellent condn with service and instruction manuals, in original boxes, offers! Will separate if necessary. M G Meyer VK2RV, 02 9371 8854, 0418 210 457.

● **Vintage AWA Type C1070 modulated oscillator** including information and valves, see *Electronics Australia* May 1998. S Dogger VK2KSD, QTHR.

FOR SALE VIC

● Estate of the late Stan Dixon VK3TE, **IC-207H VHF/UHF dual band FM txcvr**, mint condn, only used a couple of times, with all manuals and leads, $675. **13.6 V 20 A (continuous) heavy duty power supply** for the IC-207, $200. **20 m quarter wave ground plane antenna**, as new, complete with radials and instructions, $50. **Back issues of RSGB 'Radcom' magazine**, full years 1975/76/77/79/80, part years 1973/74/75, will not separate, offers around $65 for the lot. Harold VK3AFQ, QTHR, 03 9596 2414 any time.

● **Icom IC-706** HF/6 m/2 m multi-mode txcvr, complete with original packing and accessories plus OPC-581 3.5 m separation cable and MB-63 mounting bracket, hardly used, $1600. **Icom IC-275A** 2 m FM/SSB/CW txcvr, DC and built in AC supply, 25 W, 9600 ready, wide Rx, late model, with original packing and accessories, $750. **VHF Hi-band cavity filter,** $70. Adam VK3ALM, 015 362 799, 03 9794 7873.

● **Yaesu MD1B8 dynamic microphone**, as new, up down, 8 pin, offer. **TET HB33 mini beam**, 10/15/20 m, 3 element, performs well, offer. Peter VK3AJP, 89 Elizabeth Street, Kooyong VIC 3144

● **TS-430S**, $795. **FV-101Z** ext VFO, $100. **AWA F242** Dist/Anal, $800. **NJZ-900** analogue phone tester, $1500. **Marconi 2955/2960B** system, complete, amps/tacs/MPT1327, $12,500. **FM-900 2 m EPROMs**, $30. **10 MHz CRO**, $140. **AWA RT-80** VHF/2 m Hi-Band, $25. **500 MHz frequency counter**, $150. **Logimetrics sig gen**, counter, 1 Hz res, 50 kHz-80 MHz, $495. **Ariec line conditioner**, 500 VA, $380. **4CX350F**, $180. Lee VK3GK, 03 9544 7368, 015 810 101.

● **Kenwood TS-520S**, ext VFO-520S, MC-50 mic, near new 6146B finals, exc working order, $525 ONO. **Brainer 2 m base vertical antenna**, VGC, $150. Rita VK3NRT, QTHR, 03 9798 3248.

● **Computer monitor, disk drive, power supplies, manuals, books, disks, CW/RTTY software** sends random groups any speed for CW practice, etc, good working order, the lot $25 ex QTHR. Andy VK3UJ, 03 9726 8879.

● **Kenpro stay bearing** for 50 mm (2 inch) antenna mast, brand new, all bolts, etc, $40. Laurie VK3DPD, QTHR, 03 9818 6009.

FOR SALE QLD

● **Icom IC-740** txcvr, incorporates excellent rxcvr with 2 VFOs, passband tuning, notch filter, RIT/XIT, memories on all bands, very good working order and appearance, good reports on transmissions on all bands, $590, call for copy of specs sheet. **0-250 V auto transformer**, new, 1.8 A, $55. **Kenwood AT-120 ATU**, very compact, great for mobile use, $90. **Redifon R408 commercial marine radio receiver**, commonly installed on Merchant Marine vessels 1970-80, coverage from 13 kHz to 28.3 MHz, designed particularly for CW receiving, bandwidth can be variably tuned from 80 Hz to 8 kHz, triple IF, fully transistorised and includes original manual and circuit diagrams, call for copies of spec pages, $450 plus freight (25 kg). John VK4SZ, QTHR, 07 4061 3286, *johnb@comnorth.com.au*

● **Kenwood TS-430S**, both manuals, good condn, s/n 6050959, $750. Alan VK4IH, QTHR (as VK4CVU), 07 4685 2391.

● **Kenwood TS-140S** with IF-10C interface and all manuals, good condn, $600. Dick VK4DIC, 07 3264 1655.

● **Icom IC-746**, latest model radio with 100 W on HF, 6 and 2 m, new, still in box with warranty, swap for "what have you?", sell for $2800. Bob VK4SWR, 07 3348 7616 (AH).

FOR SALE SA

● **Yaesu FT-890**, as new, $1000. **Yaesu FT-290**, with battery pack, case and Tono 100 W amplifier, $450. John VK5ARK, Renmark, 08 8586 6127.

● **Kenwood TS-50S**, little use, as new, mint condn, still in box, s/n 50403113, $1400. Roger VK5NEW, 04 1787 5989.

FOR SALE WA

● **Yaesu FT-990** HF transceiver, immaculate condition with desk mic, original box and manuals, $2300. **7 element 2 m crossed Yagi beam**, $60. **13.5 V @ 3 A power supply**, $40. **SOTA solid state HF linear amplifier**, 4 W in for 100W out, 13.5 V operation, $180. **Trio 1 kW low pass filter**, $40. **Pair 4CX250 valves** and HF bases, $30. **1296 MHz to 144 MHz Rx converter**, $40. **German Morse key**, $40. **Receiver noise generator and alignment aid**, $50. Phil VK6APH, 08 9245 2973 (re-advertised - phone number in last month's *Amateur Radio* was incorrect).

WANTED NSW

● **BWD 509B oscilloscope** schematic and data. **Hy-Gain V 23 channel CB** txcvr. J Griffiths VK2BGG, QTHR.

● **Pactor modem and/or software. Manual for PK232** to copy or buy. **Firmware for PK232 MBX updated for Pactor**. Ted VK2EZQ, QTHR, 02 9477 7834, 019 460 437.

● **Philips PM3230 oscilloscope circuit** diagram. Brian VK2AZW, QTHR, 049 842 419.

● **Kyokuto FM144-10SXRII** 2 m txcvr and **Cossor 1029M MkII** mini-CRO **handbook data, circuits,** etc, will pay costs. A G Mulcahy VK2ACV, QTHR, 02 9791 0581.

WANTED VIC

● **Yaesu FT-912R** 23 cm mobile txcvr, in good condn. Bert VK3DVY, 03 5221 6804.

● **Swinging power choke**, 5-25 H, 30-300 mA, eg A&R type 983-1a or equivalent. Also **microphone or audio transformer 600 ohm to 50/100 kilohm**. Roy VK3ARY, QTHR, 03 9807 4798.

WANTED QLD

● **Radio Handbook by William Orr**, edition with HF linear using pair of 4x250 tetrodes, alternative to book purchase a photocopy of article OK, pay costs. Ron VK4BL, QTHR, *vk4bl@pgi.com.au*

WANTED SA

● **FT-901D series handbook** including circuit diagrams and workshop manual. **Tech PV58 vacuum tube volt meter handbook** and circuit. Will pay for any photocopying. Terry VK5AAL, QTHR, 08 8261 7571.

WANTED WA

● **Roller inductor** for home brew ATU project. Peter VK6AQ, QTHR, 08 9307 4960 AH, *pasmith@physics.uwa.edu.au*

MISCELLANEOUS

● **The WIA QSL Collection** (now Federal) requires **QSLs**. All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose VIC 3765, tel 03 9728 5350.

● If you got your licence before 1973 you are invited to join the **Radio Amateurs Old Timers Club**. A $2.50 joining fee plus $5.00 per year gets you two interesting Journals plus good fellowship. Arthur Evans VK3VQ or Milton Crompton VK3MN can supply applications forms. Both are QTHR in any Call Book.

● **Liverpool Club Auction, Saturday, 18 July** at Scout Camp in Cambridge Avenue, Glenfield, check-ins at 10 am, auction commences 11 am. For further details contact Garry VK2TSR, Honorary Secretary of LARDC, at PO Box 690, Liverpool NSW 2170, or 02 9631 9005 (BH).

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Prevent pirates!

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Technical Correspondence

All technical correspondence from members will be considered for publication, but should be less than 300 words.

Return Loss

The April *Technical Abstract* which describes a "Return Loss" bridge will confuse many amateurs because the term "Return Loss" is rarely used in amateur technical articles and serves no useful purpose in radio technology. The term is borrowed from telephone/telegraph line technology and its accepted definition is "Return Loss (RL) is a measure of the match between two impedances either side of a junction".

$RL=20 \log(Z_1+Z_2)/(Z_1-Z_2)$...decibels.

That expression in radio theory is the reciprocal of Reflection Coefficient (p) in dB.

$RL=20 \log 1/p = -20 \log p$

Return loss is not as stated in the *Technical Abstract*; it is not "a different way of expressing SWR" and it is not "the power taken by the load".

The circuit described does not measure return loss. It measures the ratio, reflected volts to incident volts, that is the Reflection Coefficient at the measuring point and, for reasons known only to the author, expressing that ratio in dB changes the name to Return Loss.

Reflection Coefficient is an important ratio and its measurement in antenna systems is an important measurement; knowing that ratio leads to the determination of other important parameters, the most familiar and most important of which is SWR.

SWR=(1+p)/(1-p) and p=(SWR-1)/(SWR+1).

SWR can be expressed in dB but no one suggests that it should then be given another name. It is sometimes useful to express p in dB to relate the input and output conditions: P_{dB} at the input = p_{dB} at the output plus twice the line loss in dB.

Lindsay Lawless VK3ANJ
Box 760
Lakes Entrance VIC 3909

[Our Technical Abstracts contributor, Gil Sones VK3AUI, points out that Return Loss is still a widely-used parameter in some areas, notably TV transmitting antennas and other high-power applications. Ed] **ar**

WIA Division Directory

The WIA consists of seven autonomous State Divisions. Each member of the WIA is a member of a Division, usually in their residential State or Territory, and each Division looks after amateur radio affairs within its area.

Division	Address	Officers		Weekly News Broadcasts	1998 Fees
VK1 ACT Division GPO Box 600 Canberra ACT 2601	President Secretary Treasurer	Hugh Blemings John Woolner Les Davey	VK1YYZ VK1ET VK1LD	3.570 MHz LSB, 146.950 MHz FM each Sunday evening commencing at 8.00 pm local time. The broadcast text is available on packet, on Internet *aus.radio.amateur.misc newsgroup*, and on the VK1 Home Page *http://www.vk1.wia.ampr.org*	(F) $72.00 (G) (S) $58.00 (X) $44.00
VK2 NSW Division 109 Wigram St Parramatta NSW (PO Box 1066 Parramatta 2124) Phone 02 9689 2417 Freecall 1800 817 644 Fax 02 9633 1525	President Secretary Treasurer (Office hours Mon-Fri 11.00-14.00) Web: *http://marconi.mpce.mq.edu.au/wia* e-mail address: *vk2wi@ozemail.com.au* Packet BBS: VK2WI on 144.850 MHz	Michael Corbin Eric Fossey Eric Van De Weyer	VK2YC VK2EFY VK2KUR	From VK2WI 1.845, 3.595, 7.146*, 10.125, 14.160, 24.950, 28.320, 29.120, 52.120, 52.525, 144.150, 147.000, 438.525, 1281.750 (* morning only) with relays to some of 18.120, 21.170, 584.750 ATV sound. Many country regions relay on 2 m or 70 cm repeaters. Sunday 1000 and 1930. Highlights included in VK2AWX Newcastle news, Monday 1930 on 3.593 plus 10 m, 2 m, 70 cm, 23 cm. The broadcast text is available on the Internet newsgroup *aus.radio.amateur.misc*, and on packet radio.	(F) $69.00 (G) (S) $56.00 (X) $41.00
VK3 Victorian Division 40G Victory Boulevard Ashburton VIC 3147 Phone 03 9885 9261 Fax 03 9885 9298	President Secretary Treasurer (Office hours Tue & Thur 0630-1530) e-mail address: *vk3wi@rint.com.au* Web: *http://www.tbsa.com.au/~wiavic/*	Jim Linton Barry Wilton Rob Hailey	VK3PC VK3XV VK3NC	VK3BWI broadcasts on the 1st Sunday of the month, starts 10.30 am. Primary frequencies, 3.615 LSB, 7.085 LSB, and FM(R)s VK3RML 146.700, VK3RMM 147.250, VK3RWG 147.225, and 70 cm FM(R)s VK3ROU 438.225, and VK3RMU 438.075. Major news under call VK3WI on Victorian packet BBS and WIA VIC Web Site.	(F) $75.00 (G) (S) $61.00 (X) $47.00
VK4 Queensland Division GPO Box 638 Brisbane QLD 4001 Phone 07 5496 4714	President Secretary Treasurer e-mail address: *wiaq@brisbane.dialix.com.au* Web: *http://www.wiaq.powerup.com.au*	Rodger Bingham Peter Harding John Prescott	VK4HD VK4JPH VK4WX	1.825 MHz SSB, 3.605 MHz SSB, 7.118 MHz SSB, 14.342 MHz SSB, 21.175 MHz, 28.400 MHz SSB, 29.220 MHz FM, 53.725 MHz FM, 147.000 MHz FM, 438.500 MHz (Brisbane only), and regional VHF/UHF repeaters at 0900 hrs EAST Sunday. Repeated on 3.605 MHz SSB & 147.000 MHz FM at 1930 hrs EAST Monday. Broadcast news in text form on packet under WIAQ@VKNET.	(F) $74.00 (G) (S) $60.00 (X) $46.00
VK5 South Australian Division 34 West Thebarton Rd Thebarton SA 5031 (GPO Box 1234 Adelaide SA 5001) Phone 08 8352 3426 Fax 08 8264 0463	President Secretary Treasurer Web: *http://www.vk5wia.ampr.org/*	Ian Hunt Graham Wiseman Joe Burford	VK5QX VK5EU VK5UJ	1827 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.700 FM Mid North, 146.600 FM Mildura, 146.825 FM Barossa Valley, 146.900 FM South East, 146.925 FM Central North, 147.825 FM Gawler, 438.425 FM Barossa Valley, 438.475 FM Adelaide North, ATV Ch 35 579.250 Adelaide. (NT) 3.555 USB, 7.065 USB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. 3.585 MHz and 146.675 MHz FM Adelaide, 1930 hrs Monday.	(F) $75.00 (G) (S) $61.00 (X) $47.00
VK6 West Australian Division PO Box 10 West Perth WA 6872 Phone 08 9351 8873	President Secretary Treasurer Web: *http://www.faroc.com.au/~vk6wia/* e-mail: *vk6wia@faroc.com.au*	Wally Howse Christine Bastin Bruce Hedland-Thomas	VK6KZ VK6ZLZ VK6OO	146.700 FM(R) Perth, at 0930 hrs Sunday, relayed on 1.825, 3.580, 7.075, 14.116, 14.175, 21.185, 29.680 FM, 50.150 and 438.525 MHz. Country relays 3.582, 147.350(R) Busselton and 146.900(R) Mt William (Bunbury). Broadcast repeated on 146.700 at 1900 hrs Sunday, relayed on 1.865, 3.563 and 438.525 MHz; country relays on 146.350 and 146.900 MHz.	(F) $82.00 (G) (S) $50.00 (X) $34.00
VK7 Tasmanian Division PO Box 271 Riverside TAS 7250 Phone 03 6327 2096 Fax 03 6327 1738	President Secretary Treasurer Web: *http://www.wia.tasnet.net*	Ron Churcher Paul Godden John Klop	VK7RN VK7KPG VK7KCC	146.700 MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.725 (VK7RNE), 146.625 (VK7RMD), 3.570, 7.090, 14.130, 52.100, 144.150 (Hobart), repeated Tues 3.590 at 1930 hrs.	(F) $74.00 (G) (S) $60.00 (X) $46.00

VK8 Northern Territory (part of the VK5 Division and relays broadcasts from VK5 as shown, received on 14 or 28 MHz).

Note: All times are local. All frequencies MHz.

Membership Grades
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Each transceiver is supplied with a hand-mic, DC power lead and a comprehensive instruction manual. Call us for a copy of Yaesu's 6 page colour brochure to learn more about this incredible value "Earth Station" transceiver.

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